

**OMEGA CHEMICAL SITE PRP ORGANIZED GROUP**

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August 15, 2018

Wayne Praskins  
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United States Environmental Protection Agency  
75 Hawthorne Street  
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Subject: Quarterly Performance Evaluation Report,  
Interim Groundwater Containment Remedy,  
Omega Chemical Superfund Site, Whittier, California

Dear Mr. Praskins:

Enclosed for your review is the Quarterly Performance Evaluation Report for the Operable Unit 1 (OU-1) Interim Groundwater Containment Remedy (GCR), Omega Chemical Superfund Site, Whittier, California. The purpose for this report is to provide the USEPA with data associated with the operations of the OU-1 Groundwater Containment Remedy during the second quarter 2018.

This report complies with the requirements in the April 2007 Performance Standards Verification Plan, Operations, Maintenance, and Monitoring Manual for the operation of the GCR. Overall, this report is being provided to satisfy the data reporting requirements defined under Section IX of the February 2001 Consent Decree No. 00-12471 between the USEPA and OPOG by presenting data collected during the period and providing evidence that the GCR is compliant with the OU-1 Groundwater Removal Action Objectives.

Should you have any questions, regarding the above, please contact me.

Sincerely,

Omega Chemical Site PRP Organized Group



Edward Modiano  
Project Coordinator



Jaime Dinello, PE  
Project Manager

cc: Don Indermill, DTSC



*de maximis, inc.*

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AUGUST 15, 2018

INTERIM GROUNDWATER CONTAINMENT REMEDY  
QUARTERLY PERFORMANCE EVALUATION REPORT  
SECOND QUARTER 2018  
OMEGA CHEMICAL SUPERFUND SITE, OU-1

*Prepared for:*

Omega Chemical Site  
PRP Organized Group  
(OPOG)

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# INTERIM GROUNDWATER CONTAINMENT REMEDY OPERABLE UNIT 1 OMEGA CHEMICAL SUPERFUND SITE

## Quarterly Performance Evaluation Report Second Quarter 2018

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## ACRONYMS AND ABBREVIATIONS

bgs	Below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act*
CD	Consent Decree
DPE	Dual Phase Extraction
EE/CA	Engineering Evaluation/Cost Analysis
EW	Extraction well
GCR	Groundwater Containment Remedy
GWTP	Groundwater Treatment Plant
HRA	Health Risk Assessment
OM&M	Operation, Maintenance, and Monitoring
OPOG	Omega Chemical Site PRP Organized Group*
OU-1	Operable Unit 1
OU-2	Operable Unit 2*
PSVP	Performance Standards Verification Plan
RAOs	Removal Action Objectives
RAP/PDR	Removal Action Plan and Preliminary Design Report
SCAQMD	South Coast Air Quality Management District
SDLAC	Sanitation Districts of Los Angeles County
USEPA	United States Environmental Protection Agency*
VOC	Volatile Organic Compound
VGAC	Vapor Phase Granular Activated Carbon

\*These acronyms are assumed to be known to the reader and are not spelled out in the report.

# INTERIM GROUNDWATER CONTAINMENT REMEDY

## OPERABLE UNIT 1 OMEGA CHEMICAL SUPERFUND SITE

### Quarterly Performance Evaluation Report

#### Second Quarter 2018

#### 1. INTRODUCTION

Operable Unit 1 (OU-1) of the Omega Chemical Superfund Site is defined as the area of soil and groundwater contamination at the former Omega Chemical property located at 12504 and 12512 Whittier Blvd, Whittier, California, and extending in a downgradient direction to approximately 100 feet southwest of Putnam Street, Whittier, California (Figure 1). This quarterly performance evaluation report has been prepared on behalf of OPOG to comply with the February 2001 Consent Decree (CD) No. 00-12471 between the USEPA and OPOG (USEPA, 2001). The CD required OPOG to conduct an Engineering Evaluation/Cost Analysis (EE/CA) to identify and recommend a groundwater containment remedy (CDM, 2005). USEPA selected the remedy recommended in the EE/CA via the September 2005 Removal Action Memorandum (USEPA, 2005). As stated in this action memorandum, the primary goal of the selected remedy is to contain the highest levels of contamination dissolved in groundwater within OU-1, so that the contamination does not migrate and contribute to the downgradient regional groundwater plume. To achieve this goal, the OU-1 Groundwater Containment Remedy (GCR) was installed and began operating in 2009. A brief operational history is provided in the table below.

#### Brief Operational Summary of GCR

February, 2001	Partial Consent Decree No. 00-12471 entered into the US District Court on February 28, 2001.
July 2005	EE/CA submitted with recommended interim groundwater containment remedy.
September 2005	EPA issued an Action Memorandum to construct and operate an interim groundwater containment system for the OU-1 area.
July 2009	Construction of the groundwater containment system was completed. The system began

	operation.
June 2014 – January 2015	Operations ceased due to vandalism.
January 2015	Operations resumed.
February 2015	Conveyance of extracted groundwater from the OU-1 On-Site Soil Remedy dual phase extraction wells to the GCR for treatment was initiated (see Section 4.2).
July 2016	Volume of extracted groundwater conveyed from the OU-1 On-Site Soil Remedy was increased; two additional dual phase extraction wells were brought on line (see Section 4.2).

## 2. REPORT PURPOSE AND ORGANIZATION

This report complies with the requirements in the Performance Standards Verification Plan (PSVP), Operations, Maintenance, and Monitoring (OM&M) Manual, and Section IX of the CD by presenting data collected during the quarter and providing evidence that the GCR is compliant with the OU-1 Groundwater Removal Action Objectives (RAOs). This report contains the following general content:

- Description of the OU-1 Groundwater RAOs (Section 3);
- Description of the OU-1 GCR (Section 4);
- A discussion of groundwater containment monitoring data and compliance with the containment RAO (Section 5);
- Summary of GCR system operational monitoring (Section 6);
- Overall summary assessment of system operations and recommended changes or modification to the system (Section 7); and
- Planned activities for the next quarter (Section 8).

## 3. OU-1 GROUNDWATER REMOVAL ACTION OBJECTIVES

The OU-1 Groundwater RAOs established as performance standards in the 2001 CD are as follows:

- Achieve vertical and lateral hydraulic containment of groundwater contamination within OU-1 (primary documentation of such is via piezometric monitoring), and
- Meet specified air emissions standards and groundwater treatment standards appropriate to the treated water end use.

#### **4. DESCRIPTION OF THE OU-1 GROUNDWATER CONTAINMENT REMEDY AND ROLE OF MORE RECENTLY INSTALLED OU-1 MULTIPURPOSE EXTRACTION WELLS**

As stated in the 2005 Action Memorandum (USEPA, 2005):

- *"The primary goal of the proposed interim removal action is to contain the highest levels of contamination dissolved in groundwater within OU-1, so they do not migrate and contribute to the OU-2 plume."*

AND

- *"To achieve this goal, five groundwater extraction wells would be installed within the Putnam Street right of way to form a hydraulic barrier along the primary flow pathway for downgradient contaminant migration."*

Construction of the GCR was completed in 2009 and the remedy became operational in July 2009.

##### **4.1. COMPONENTS OF THE GCR**

The primary components of the 2009 installed GCR include the following (see Figure 1):

- Five hydraulic containment extraction wells (EW-1, EW-2, EW-3, EW-4, and EW-5) that are designed to form a barrier to groundwater flow from the former Omega property, past the south-western boundary of OU-1;
- The Groundwater Treatment Plant (GWTP), including an air stripper, two vapor phase granular carbon (VGAC) vessels, and conveyance piping that are used to convey and treat extracted groundwater and air stripper vapor emissions for discharge; and,
- A network of eleven groundwater monitoring wells and 4 piezometers that are used for

data collection points to assess the performance of the GCR.

The GCR operates 24 hours per day, 365 days per year, except for periods of routine or required maintenance. In accordance with the approved Removal Action Plan and Preliminary Design Report (RAP/PDR), the groundwater extraction wells target the water table aquifer, which extends to approximately 90 feet below ground surface (bgs) (CDM, 2005a). This is the target extraction zone for containment.

The air stripper treats extracted groundwater by transferring VOCs from the groundwater into the vapor phase, creating a VOC-laden vapor stream which is treated by the two VGAC vessels in series (a primary vessel and a secondary vessel), prior to emission to the atmosphere.

Treated groundwater is discharged into the Sanitation Districts of Los Angeles County (SDLAC) sewer system, and is monitored in accordance with a SDLAC industrial waste permit (renewed on a five year basis with the most recent renewal issued in August 2017).

Treated vapor is monitored in accordance with requirements established with the South Coast Air Quality Management District (SCAQMD) Health Risk Assessment (HRA) (CDM Smith, 2015). Additional details regarding the GWTP equipment and documentation are available in the OM&M Manual (CDM, 2010).

Monitoring wells and piezometers specified in the PSVP are used to collect piezometric and water quality data to demonstrate compliance with the OU-1 containment RAO (Figure 1) (CDM, 2007). The performance of the GCR to hydraulically contain groundwater within OU-1 has been assessed and reported since operations began in July 2009. The success of the EW-series wells installed along Putnam Street to provide a barrier to groundwater flow from the former Omega property has been documented in annual performance monitoring reports starting in 2009. Extraction well EW-2 was the primary producer of groundwater prior to the regional drought, generating the majority of groundwater extracted each year from 2009 through 2013 and thus forming the point of flow convergence within OU-1, demonstrating capture (CDM Smith, 2013).

#### 4.2. ROLE OF MORE RECENTLY INSTALLED OU-1 MULTIPURPOSE EXTRACTION WELLS

In addition to operation of the GCR hydraulic containment extraction wells, other groundwater

extraction is occurring within OU-1. Seven dual-phase extraction (DPE) wells are also operating and extracting groundwater within OU-1. These DPE wells were constructed in June through December 2014 as part of the Full Scale On-Site (OU-1) Soil Remedy under the 2010 Consent Decree between the USEPA and OPOG. These soil remedy DPE wells are DPE-3, DPE-4, DPE-5, DPE-8, and DPE-9 which became operational in February 2015; and VE-7D and VE-10D which became operational in July 2016. These Full Scale On-Site (OU-1) Soil Remedy DPE wells are also shown on Figure 1. Although installed as part of the Full Scale On-Site (OU-1) Soil Remedy to increase subsurface vapor removal, the DPE wells are currently extracting the majority of the water treated by the GWTP because they are screened deeper than the GCR hydraulic containment extraction wells. The declining regional water levels and groundwater extraction at OU-1 have effectively dewatered the aquifer.

## 5. CONTAINMENT RAO COMPLIANCE MONITORING AND ANALYSIS

Groundwater data are collected and evaluated to demonstrate compliance with the containment RAO as described below.

- Quarterly piezometric data from the PSVP-specified monitoring locations are plotted to illustrate that groundwater flow is toward the pumping wells (CDM, 2005a). According to the CD, these data provide the primary documentation of containment (USEPA, 2001).
- Semi-annual water quality data from PSVP-specified monitoring locations are plotted on time-series charts to show concentration trends (CDM, 2007). These data are collected during the first and third quarter monitoring events and are used to further demonstrate horizontal and vertical containment.
- Annually, concentration trends at downgradient wells OW-9 and OW-10 are evaluated using the Mann-Kendall test on cumulative historical PCE, TCE, and 1,4-dioxane concentrations over the most current three-year period (OPOG, 2016). Effective capture of the up-gradient plume is shown by stable (no trend) or decreasing concentrations (CDM, 2007).
- Annually, a particle tracking figure that simulates the hydraulic capture zone within the OU-1 boundary is prepared from the updated analytical model (CDM, 2007). The simulated capture zone is used to support the piezometric capture analysis.

This report provides the quarterly assessment of the containment RAO. The results are presented below.

### 5.1. QUARTERLY PIEZOMETRIC MONITORING

Quarterly piezometric data were collected and subjected to analysis as stated above.

Attachment A (Quarterly Groundwater Containment Review, CDM Smith, August 2018) provides an analysis of the piezometric conditions observed during the reporting period. As discussed therein, and as demonstrated by Figure A-1, horizontal containment of OU-1 groundwater continues to be achieved. It is also noted that the regional drought conditions and the pumping from Full Scale On-Site (OU-1) Soil Remedy DPE wells have reduced water levels locally to below the pump intake of some GCR extraction wells.<sup>1</sup> The combination of all these factors has essentially dewatered the aquifer within the OU-1 boundary, and thus is providing horizontal containment. The PSVP-piezometric data are provided in Attachment B, Table B-1.<sup>2</sup> Historical PSVP-piezometric data are presented in time series charts in Attachment B, Figures B-1 through B-20.

Vertical gradients are examined at a well triplet and two well pairs (Figure A-2). There is minimal hydraulic connection between the shallow extraction zone (A-Zone) and the deeper B-Zone due to the presence of a confining layer which prevents significant downward vertical transport (Figure A-4). The significant head differential between the A-Zone and B-Zone is further evidence of poor hydraulic connection between the zones. See Attachment A for a more detailed discussion.

### 6. FIELD FORMS FOR THE QUARTERLY PIEZOMETRIC MONITORING ARE INCLUDED IN ATTACHMENT C.GCR SYSTEM OPERATIONS MONITORING

GCR operational data are collected to support the determination of compliance with the second

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<sup>1</sup> Dual phase extraction wells were installed as part of the Full Scale On-Site (OU-1) Soil Vapor Remedy, and are designed to address soil contamination by reducing the water level in vapor extraction wells, exposing more soil to vapor extraction. A secondary benefit of these wells is that they remove groundwater from within OU-1, contributing to hydraulic containment and groundwater mass removal.

<sup>2</sup> The 2007 PSVP also listed wells OW-4a and OW-4b (located approximately 500 feet down gradient of the OU-1 boundary) as monitoring locations to determine flow direction and gradients outside the capture zone. As discussed with EPA, these wells were transferred out of the OU-1 program in 2017 and are now monitored by OPOG and other Settling Work Defendants as part of OU-2 in accordance with the Consent Decree approved by the court in March 2017. These wells are no longer used by OPOG to generate information for assessing performance of the OU-1 GCR.

RAO (treated vapor emissions and treated groundwater discharge) as well as to conform to the requirements of the PSVP and OM&M Manual. Field forms for the operational monitoring are included in Attachment C. Analytical laboratory reports and data verification reports are included in Attachment D.

The following paragraphs provide a summary of key operational parameters and compliance with both vapor phase emissions and aqueous phase discharge requirements.

### **Key Operational Parameters**

All GCR extraction wells (EW-1, EW-2, EW-3, EW-4, and EW-5) were mechanically functional during this quarter. The measured pump run-time, calculated extracted volume, average flow rates per well, and calculated mass removed per extraction well are provided in Attachment E, Table E-1.

The GCR had an operational run time of approximately 99 percent during the quarter (Table 1). Performance summaries for the Air Stripper and VGAC units are provided below.

Air stripper performance:

- 3.5 pounds of VOC mass were removed from treated groundwater by the air stripper during the reporting period and approximately 964 pounds since project inception in 2009 (Table 1, Figure 2);
- VOC concentrations in groundwater prior to and after treatment by the air stripper are summarized in Table 2. These data show continued effectiveness in transferring VOCs from the aqueous phase to the vapor phase for treatment by the VGAC; and,
- Air stripper influent concentrations over time are shown on Figure 3.

VGAC performance:

- VOC concentrations in vapor at the VGAC influent, intermediate point, and effluent are summarized in Table 3. These data show that the VGAC removed VOCs from the VOC-laden vapor flow, transferring it to the activated carbon by adsorption; and,
- VGAC operational conditions during the quarter are summarized in Attachment E, Table

E-2. These data demonstrate that the VGAC and related processes were functioning efficiently and that no carbon changeout was required.<sup>3</sup> No carbon changeout occurred during the reporting period. The last carbon changeout occurred on March 23, 2015.

### **Compliance with Emissions and Discharge Requirements**

Although a permit to operate is not required from SCAQMD per CERCLA Section 121, the VGAC is monitored to verify that emissions limits identified in the SCAQMD HRA (CDM Smith, 2015) are being met. There are two types of SCAQMD emissions limits: chemical-specific concentrations in VGAC effluent and VGAC operational conditions. Based on sample results, the VGAC effluent satisfied the SCAQMD HRA chemical-specific limits as well as the SCAQMD operational requirements for flow rate, temperature, and total VOC emissions as indicated by a photo-ionization detector (Table 3, Table E-2). Laboratory analytical reports are provided in Attachment D.

SDLAC issued an Industrial Waste Discharge Permit (No. 20039) in September 2007 for the discharge of treated water from the GWTP to sewer manhole No. MH 18-0271 at Crowndale Street. As required, the permit is renewed on a five-year basis. The first permit renewal was received in 2012 and the second permit renewal was granted on August 8, 2017.

Compliance samples are collected on a quarterly basis from the designated sample collection point, identified as 20039A, and analyzed by a third party representative, currently Test America, as required by the permit. Test America is located in Irvine, California.

The results for quarterly effluent samples were provided to SDLAC in the self-monitoring report (Attachment F). The analytical results reported by Test America show that all analytes were within SDLAC permit limits or were non-detectable above reporting limits.

Other groundwater data collected during the quarter, including data from groundwater pumped from the Full Scale On-Site (OU-1) Soil Remedy DPE wells, are summarized in Attachment G.

<sup>3</sup> The SCAQMD Health Risk Assessment (CDM Smith, 2015) requires that a carbon changeout occur when the efficiency of the primary absorber drops below 90% and the intermediate VOC concentration exceeds 12 parts per million by volume as hexane. Typically, OPOG elects to preemptively changeout the carbon prior to triggering the SCAQMD HRA changeout criteria. OPOG's changeout decision is based on the level of VOC desorption observed at the intermediate point between the VGAC vessels. Analytical results from monthly VGAC monitoring are reviewed when received from the laboratory, and each month a determination is made whether to change or retain the current carbon load (Attachment E).

This includes operational information such as volume of groundwater extracted this quarter and calculations of mass removed per pumping well.

## 7. SUMMARY OF MONITORING AND RECOMMENDATIONS

The OU-1 GCR continues to be compliant with the CD RAOs.

Horizontal containment continues to be achieved via pumping within the OU-1 boundary. Pumping from the GCR extraction wells was limited during this quarter due the restricted saturated thickness of the aquifer resulting from drought conditions and other ongoing remedial pumping within the OU-1 boundary. Vertical containment is provided by the confining layer between the shallow and deep zones.

GCR operational data collected this quarter provide evidence that the treated vapor emissions met SCAQMD HRA requirements, and the treated water discharged met SDLAC permit requirements.

No modifications to the GCR operations are required at this time. No modifications to the GCR operations were implemented during the reporting period. It is recommended that the GCR continue to be implemented as currently configured.

## 8. PLANNED ACTIVITIES

Planned activities for the next quarter include the following:

- Routine status calls with USEPA;
- Weekly, monthly, and quarterly OM&M activities;
- Monthly assessment of VGAC effectiveness and need for carbon changeout;
- Quarterly piezometric monitoring and assessment of capture for compliance with RAOs;
- Semi-annual groundwater monitoring;
- Annual model update, particle track assessment, and Mann-Kendall analysis;
- Assessment of data to determine if system adjustments are appropriate;

- Quarterly performance reporting; and
- Continued communication as needed with property owners, tenants, and the city of Whittier regarding access for monitoring and other GCR activities.

## 9. REFERENCES

- CDM. (2005). *Engineering Evaluation and Cost Analysis*, July 29.
- CDM. (2005a). *Removal Action Plan and Preliminary Design Report*, December 16.
- CDM. (2007). *Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System*, April 19.
- CDM. (2010). *Final Operations, Maintenance, and Monitoring Manual*, February 19.
- CDM Smith. (2015). *Memorandum: Treatment of Effluent from Groundwater Treatment System and Soil VaporExtraction, Omega Chemical Superfund Site, Whittier, California 90602*, February 26.
- demaximis. (2017, July). email between de maximis inc and SDLAC regarding permit #20039. *Omega Chemical Site PRP Group LLC (2113183), Permit Number: 20039 - Permit Renewal Application*.
- OPOG. (2016). OPOG Responses to EPA Comments dated March 10 and 21, 2016, Draft 2015 Annual PSVP Report, Omega Chemical Superfund Site, Whittier, California, August.
- USEPA. (2001). *Consent Decree No. 00-12471*, February 28.
- USEPA. (2005). *Request for Removal Action Memorandum*, September 27.

# **TABLES**

**Table 1**  
**GWTP Operational Summary and Mass Removed Totals**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Second Quarter 2018**

Month	GWTP Runtime Percent <sup>1</sup> (%)	GWTP Runtime Hours (hrs)	Operational Flow Rate <sup>2</sup> (gpm)	Average Flow Rate <sup>3</sup> (gpm)	Total Gallons Processed <sup>4</sup> (gal)	Mass Removed <sup>5</sup> (lbs)
April 2018	97	697	6.6	6.3	274,190	1.2
May 2018	100	743	6.4	6.4	283,940	1.3
June 2018	100	719	5.8	5.8	251,350	1.0
<b>2nd Quarter 2018</b>	<b>Average = 99</b>	<b>Average = 720</b>	<b>Average = 6.3</b>	<b>Average = 6.2</b>	<b>Total = 809,480</b>	<b>Total = 3.5</b>
				<b>Cumulative Total<sup>6</sup></b>	<b>41,095,175</b>	<b>964</b>

**Notes:**

1. GWTP Runtime Percent is the percentage of total hours in the month that the GWTP actually operated.
2. Operational flow rate calculated from total gallons processed in the month and hours the GWTP actually operated in the month.
3. Average flow rate is calculated from total gallons processed in the month and total hours in the month, regardless of GWTP uptime.
4. Total gallons processed includes groundwater pumped to the GWTP from the Full Scale On-Site (OU-1) Soil Remedy DPE wells.
5. Mass removed is calculated from the average VOC concentration in the air stripper influent and discharge, and the total gallons processed. See Table 3.
6. The GWTP has to date treated 41,095,175 gallons of water and removed a cumulative total of 964 pounds of contaminant. See Figure 2.

gpm = gallons per minute

hrs = hours

gal = gallons

lbs = pounds

**Table 2**  
**Air Stripper Influent and Effluent Concentrations Demonstrating Proper System Function**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Second Quarter 2018**

Sample ID	Sample Date	PCE	TCE	MeCL	1,2-DCA	Freon 11	Freon 113
OC_SP210_INF_041118	4/11/2018	320	38	13 U	3	25	88
OC_SP220B_EFF_041118	4/11/2018	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_050918	5/9/2018	340	31	25 U	5 U	26	93
OC_SP220B_EFF_050918	5/9/2018	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_060518	6/5/2018	220	38	5 U	3.6	31	120
OC_SP220B_EFF_060518	6/5/2018	1 U	1 U	5 U	1 U	1 U	5 U

Notes:

INF = Air stripper influent water. Untreated water sample collected downstream of bag filters.

EFF = Air stripper effluent water. Treated water sample collected in discharge header upstream of SDLAC sample box.

SDLAC = Sanitation District of Los Angeles County

All results are in micrograms per liter (ug/L)

U = not detected above reporting limit listed

PCE = Tetrachloroethene; TCE = Trichloroethene; MeCL = Methylene chloride; 1,2-DCA = Dichloroethane

**Table 3**  
**Vapor Phase GAC Concentrations Demonstrating Substantive Compliance with SCAQMD Regulations**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Second Quarter 2018**

SCAQMD Chemical-Specific Effluent Limit <sup>1</sup>			268.6	13.4	60	4.6	20	31.2	20	13
Sample ID	Sample Date	Units	PCE	TCE	1,1-DCA	1,2-DCA	BZ	MeCL	VC	CFM
OC_VGAC_INF_SP241_041118	4/11/2018	ppbv	90	13	1.1 U	1.7	1.1 U	11 U	1.1 U	6.7
OC_VGAC_INT_SP245_041118	4/11/2018	ppbv	1.2 U	1.2 U	1.2 U	1.5	1.2 U	12 U	1.2 U	6.4
<b>OC_VGAC_EFF_SP242_041118<sup>2</sup></b>	4/11/2018	ppbv	<b>1.2 U</b>	<b>12 U</b>	<b>1.2 U</b>	<b>5</b>				
OC_VGAC_INF_SP241_050918	5/9/2018	ppbv	88	12	1.2 U	1.4	1.2 U	12 U	1.2 U	5.8
OC_VGAC_INT_SP245_050918	5/9/2018	ppbv	1.1 U	1.1 U	1.1 U	1.3	1.1 U	11 U	1.1 U	6
<b>OC_VGAC_EFF_SP242_050918</b>	5/9/2018	ppbv	<b>1.1 U</b>	<b>11 U</b>	<b>1.1 U</b>	<b>4.5</b>				
OC_VGAC_INF_SP241_060518	6/5/2018	ppbv	86	11	1.2 U	1.5	1.2 U	12 U	1.2 U	5.6
OC_VGAC_INT_SP245_060518	6/5/2018	ppbv	1.1 U	1.1 U	1.1 U	1.6	1.1 U	11 U	1.1 U	6.5
<b>OC_VGAC_EFF_SP242_060518</b>	6/5/2018	ppbv	<b>1.1 U</b>	<b>11 U</b>	<b>1.1 U</b>	<b>4.4</b>				
<b>Compliance with Effluent Limits?</b>			YES	YES	YES	YES	YES	YES	YES	YES

1. SCAQMD effluent limits are in parts per billion volume (ppbv)

2. Bold text indicates vapor effluent results from the VGAC effluent required to meet SCAQMD HRA chemical specific limits shown in the table.

INF = Vapor phase GAC influent. VOC-laden vapor sample collected at the influent to the lead vapor GAC unit.

INT = Vapor phase GAC intermediate. Partially treated vapor sample collected between the lead and lag vapor GAC units.

EFF = Vapor phase GAC effluent. Fully treated vapor sample collected at the effluent from lag (polishing) vapor GAC unit.

VGAC = vapor phase granular activated carbon; GAC = granular activated carbon

SCAQMD HRA Limit = South Coast Air Quality Management District Health Risk Assessment permitted concentration limit in ppbv

U = not detected above reporting limit listed

PCE = Tetrachloroethene; TCE = Trichloroethene; 1,1-DCA = 1,1-Dichloroethane; 1,2-DCA = 1,2-Dichloroethane; BZ = Benzene; MeCL = Methylene chloride; VC = Vinyl chloride; CFM = Chloroform

# **FIGURES**



- ◆ GCR Extraction Well
  - Observation Well / Piezometer
  - OU-1 On-Site Soil Remedy
  - Dual Phase Extraction Well
  - ~~~~ GCR Conveyance Piping
- Only piezometric data are collected from PZ-3 for GCR performance monitoring.

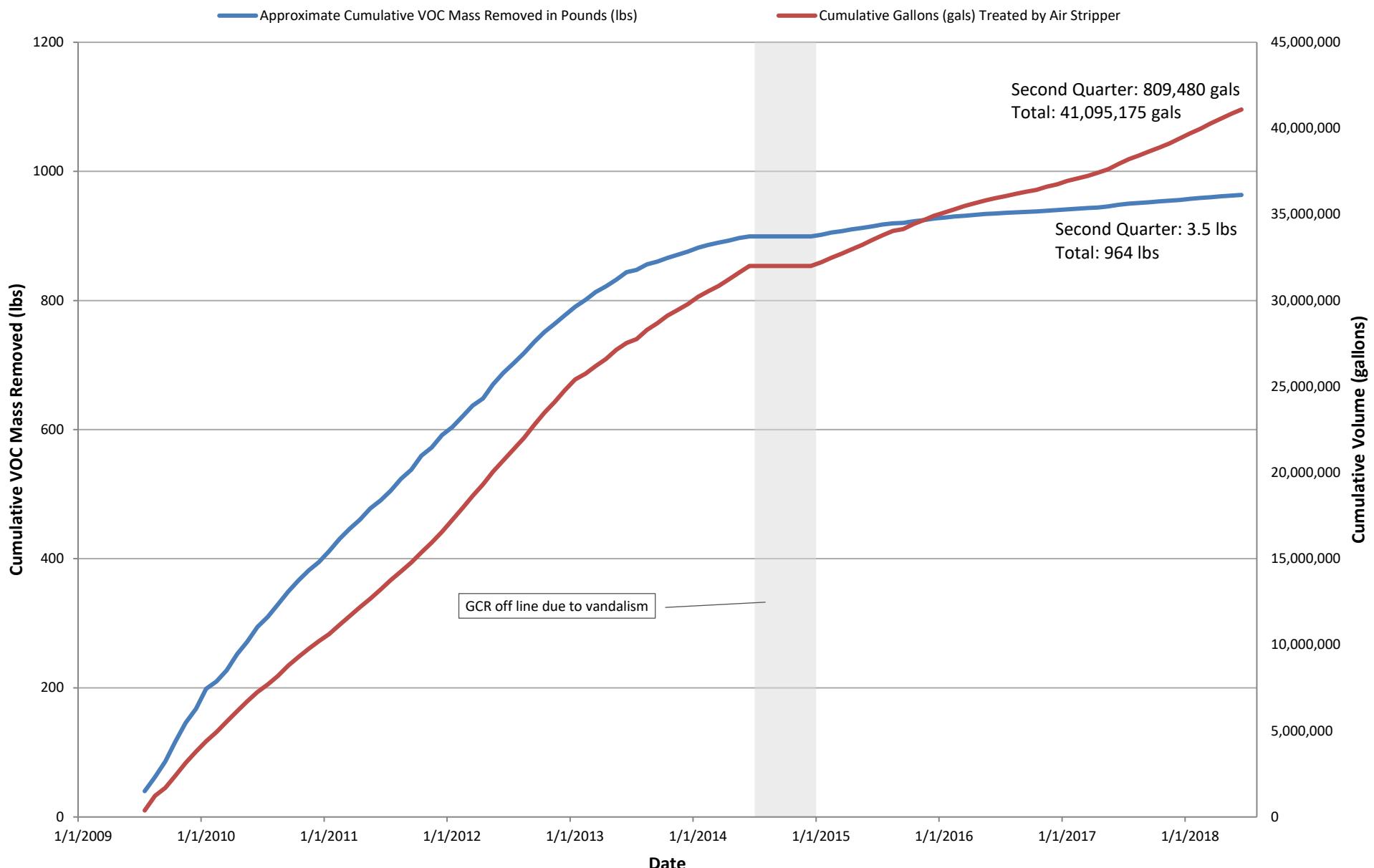
■ GWTP Compound Location  
 ■ Former Omega Chemical Property Boundary  
 □ OU-1 Boundary

**ddms**  
 de maximis, inc.

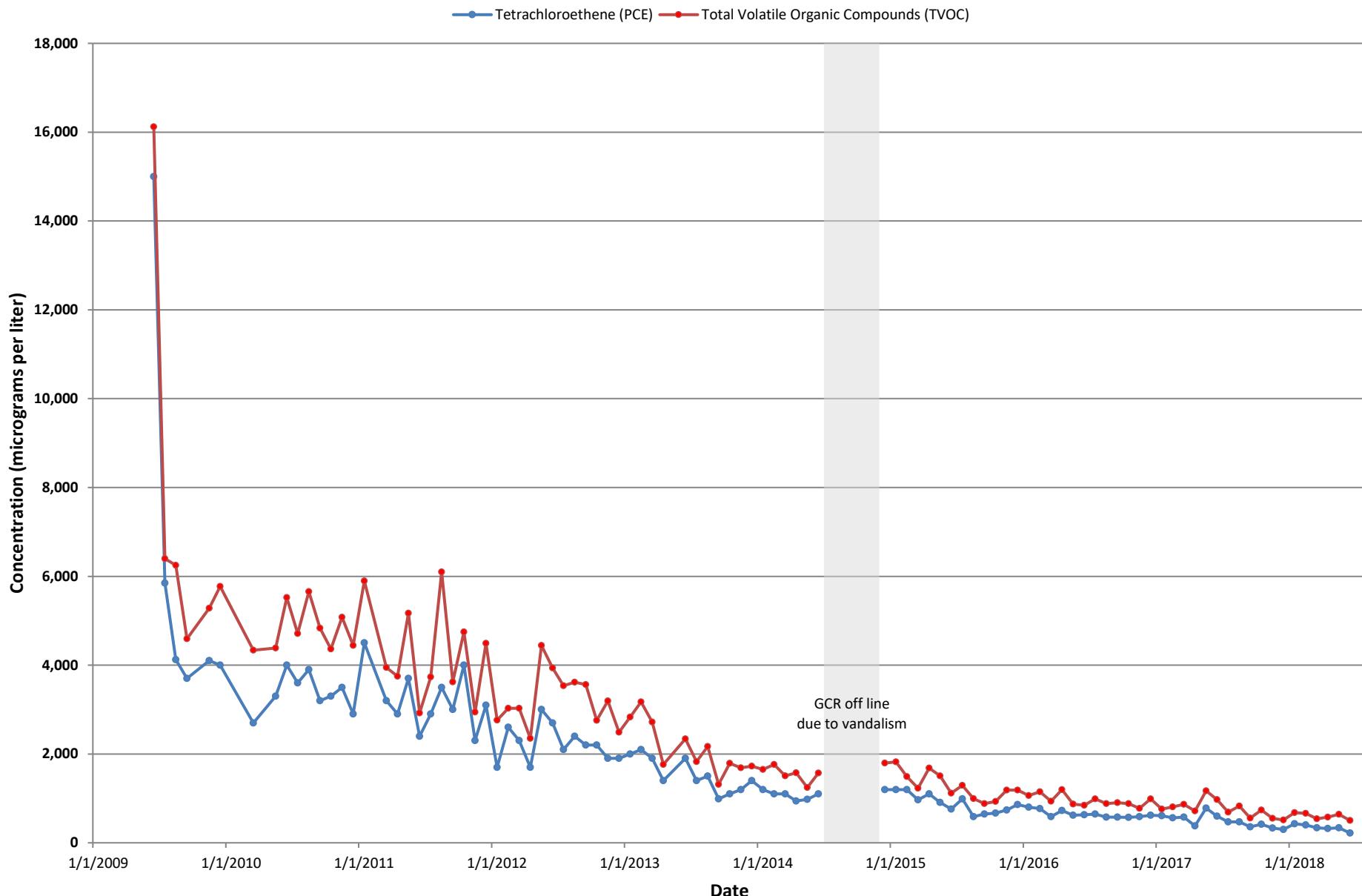
Reviewed By: MH  
 Drawn By: LEM  
 Date: 8/2/2018

**Figure 1**  
**OU-1 Location Map and**  
**Groundwater Containment Remedy Location**  
**OU-1 Groundwater Containment Remedy,**  
**Omega Chemical Superfund Site**  
**12504/12512 East Whittier Boulevard**  
**Whittier, California**

**Figure 2**  
**GCR GWTP Cumulative Gallons Treated and Mass Removed**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Second Quarter 2018**



**Figure 3**  
**GCR Air Stripper Influent Concentrations**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Second Quarter 2018**



## **ATTACHMENT A**

# **Quarterly Groundwater Containment Review**



## Memorandum

*To:* Jaime Dinello, de maximis, inc.

*From:* Matt Gamache, CDM Smith

*Date:* August 13, 2018

*Subject:* Omega Operable Unit 1 EE/CA Remedy

*Quarterly Groundwater Containment Review – June 6, 2018*

This memorandum provides and discusses the second quarter 2018 (2Q2018) groundwater elevation contours based on the June 6, 2018 groundwater monitoring gauging activities, and the response of the local groundwater table to the Omega Operable Unit (OU)-1 Groundwater Containment Remedy (GCR) operation. The purpose of the GCR is to hydraulically contain the highest levels of contamination dissolved in groundwater within OU-1. Extraction wells (EWs) located along Putman Street are designed to provide a hydraulic barrier at the down-gradient boundary of OU-1 (Figure A-1). In addition to operation of the GCR hydraulic containment extraction wells, other groundwater extraction is occurring within OU-1. Seven dual-phase extraction (DPE) wells are also operating and extracting groundwater within OU-1. These DPE wells were constructed in June through December 2014 as part of the Full Scale On-Site (OU-1) Soil Remedy under the 2010 Consent Decree between the USEPA and OPOG. These soil remedy wells are DPE-3, DPE-4, DPE-5, DPE-8, DPE-9, VE-7D, and VE-10D, and are also shown on Figure A-1. Although installed as part of the OU-1 soil remedy to increase subsurface vapor removal, the DPE wells are currently extracting the majority of the water treated by the GCR groundwater treatment plant.

On June 6, 2018, in accordance with the approved Performance Standards Verification Plan (PSVP; CDM, 2007) for the GCR, water level elevations were measured for the purposes of demonstrating hydraulic containment of groundwater within OU-1. The majority of the monitoring points used in this evaluation lie within the boundaries of OU-1. However, selected monitoring points immediately adjacent to OU-1 (e.g. PZ-3, OW-9, and OW-11) are also used to assess the performance of the OU-1 groundwater remedy. All PSVP-required locations were measured during 2Q2018. These data are plotted along with interpreted water level elevation contours (1-foot interval) on Figure A-1 and demonstrate that OU-1 groundwater is contained.

The water-level contour map (Figure A-1) demonstrates that flow from the former Omega Chemical property located at 12504 and 12515 Whittier Blvd. Whittier, California (property) is primarily converging east of the Putnam Street GCR boundary wells EW-1, EW-2, and EW-3, around the OU-1 Soil

Remedy wells DPE-9, DPE-5 and DPE-4 and west of Putnam Street around the OU-1 Soil Remedy wells VE-7D and VE-10D. The total average extraction rate associated with the June 6, 2018 water level data is 5.44 gpm, resulting in a similar capture zone to 1Q2018.

Horizontal gradients within OU-1 are variable, at approximately 0.03 ft/ft from the property toward Putnam Street, consistent with 1Q2018 results. The horizontal gradients between OW-3a and DPE-9 and between OW-9 and VE-10D (along and to the west of Putnam Street) were 0.04 ft/ft and 0.10 ft/ft, respectively on June 6, 2018, which are also consistent with those recorded in 1Q2018.

Vertical gradients are examined at one well triplet and two well pairs: OW-1A/OW-12/OW-1B, OW-3A/OW-3B, and OW-8A/OW-8B, the locations of which are shown on Figure A-2. For each set of wells, the 'A' well is screened in the A-zone and the 'B' well is screened in the B-zone. OW-12 is also screened in the A-zone in-between OW-1A and OW-1B. The A-zone, essentially the water table aquifer, is currently being pumped by the GCR EWs and the OU-1 Soil Remedy DPE wells. The A-zone is the principal zone impacted by VOCs at the site.

The A and B-zones show minimal hydraulic connection as evidenced by the significant difference in head between them. The lithologic data demonstrate the presence of 30-foot thick layer of clayey silt or silty clay that underlies the A-zone and acts as a confining unit between these zones, as shown on cross sections A-A' and B-B', further illustrating this hydraulic and physical vertical separation. The locations of both sections are shown in Figure A-3 and the cross sections themselves are shown in Figures A-4 (A-A') and A-5 (B-B'). In Figure A-4, the well screens of OW-3B and OW-8B are shown to be below the confining unit that underlies the A-zone. In Figure A-5, the lithology around OW-1A, OW-12, and OW-1B varies from what is observed at the other well pairs. In this instance, OW-1A is partially screened within a sand layer, but the area around the OW-12 and OW-1B well screens has been classified as clayey silt or silty clay. Since there are no lithological markers differentiating the two lower-screened wells (OW-12 and OW-1B), the groundwater elevations must be used to infer the degree of hydraulic connection/separation. Hydrographs of the water levels over time at these three wells are shown in Figure A-6. Although OW-1A has been dry for most of the OW-12 data collection period, vertical (downward) gradients can be seen between these two wells in the few instances where water was found at OW-1A since 2013. Vertical (downward) gradients between OW-12 and OW-1B are also present for all synoptic rounds of data except for August 2017, when groundwater elevations are approximately 117 feet MSL at both wells. Despite these similar elevations in August 2017 and February 2018, the units screened by these two wells are still considered to be hydraulically separated. OW-12 water level elevations have receded with time, similar to most other A-zone wells over the same 2013 – 2018 period, while OW-1B water levels had risen and have now plateaued over the most recent three consecutive quarters, indicative of the more rapid response to changes in rainfall recharge seen in the B-zone. This is similar to what has been observed at OW-3A/OW-3B (Figure A-7) and OW-8A/OW-8B (Figure A-8).

August 13, 2018

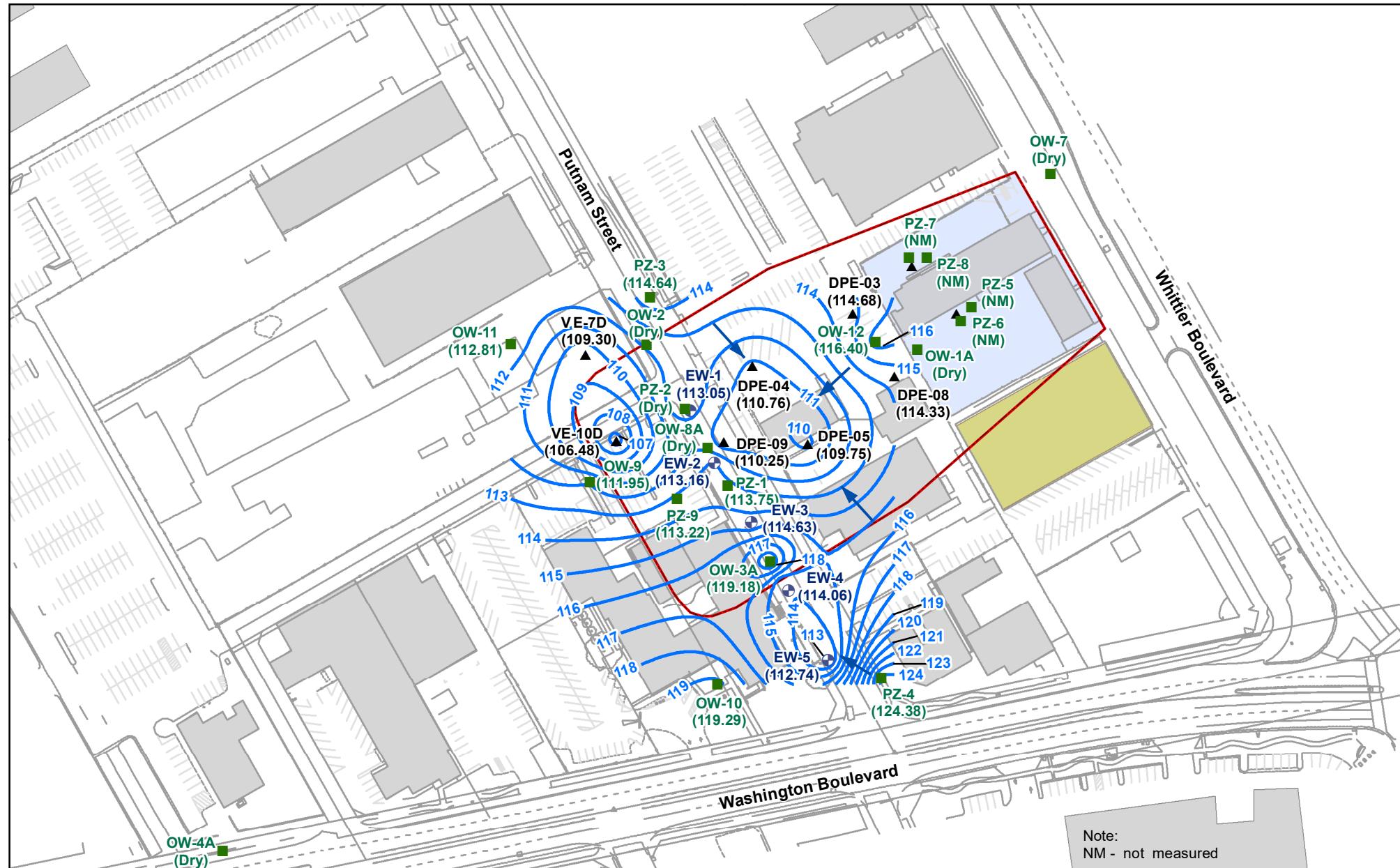
Page 3

The area covered by the cone of depression in 2Q2018 is similar to what was observed and documented in 1Q2018 (CDM Smith, 2018) due to relatively consistent pumping. The combination of GCR extraction, OU-1 Soil Remedy extraction, and the regional drought conditions has essentially dewatered the A-Zone aquifer. As demonstrated on Figure A-1, containment of the OU-1 groundwater is attained.

### ***References***

CDM, 2007. *Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System*. April 19, 2007.

CDM Smith, 2018. *Omega Operable Unit 1 EE/CA Remedy Quarterly Groundwater Containment Review – February 12-14, 2018*. May 3, 2018.

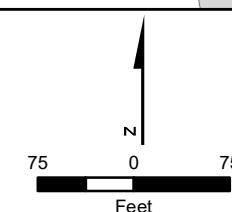


#### Legend

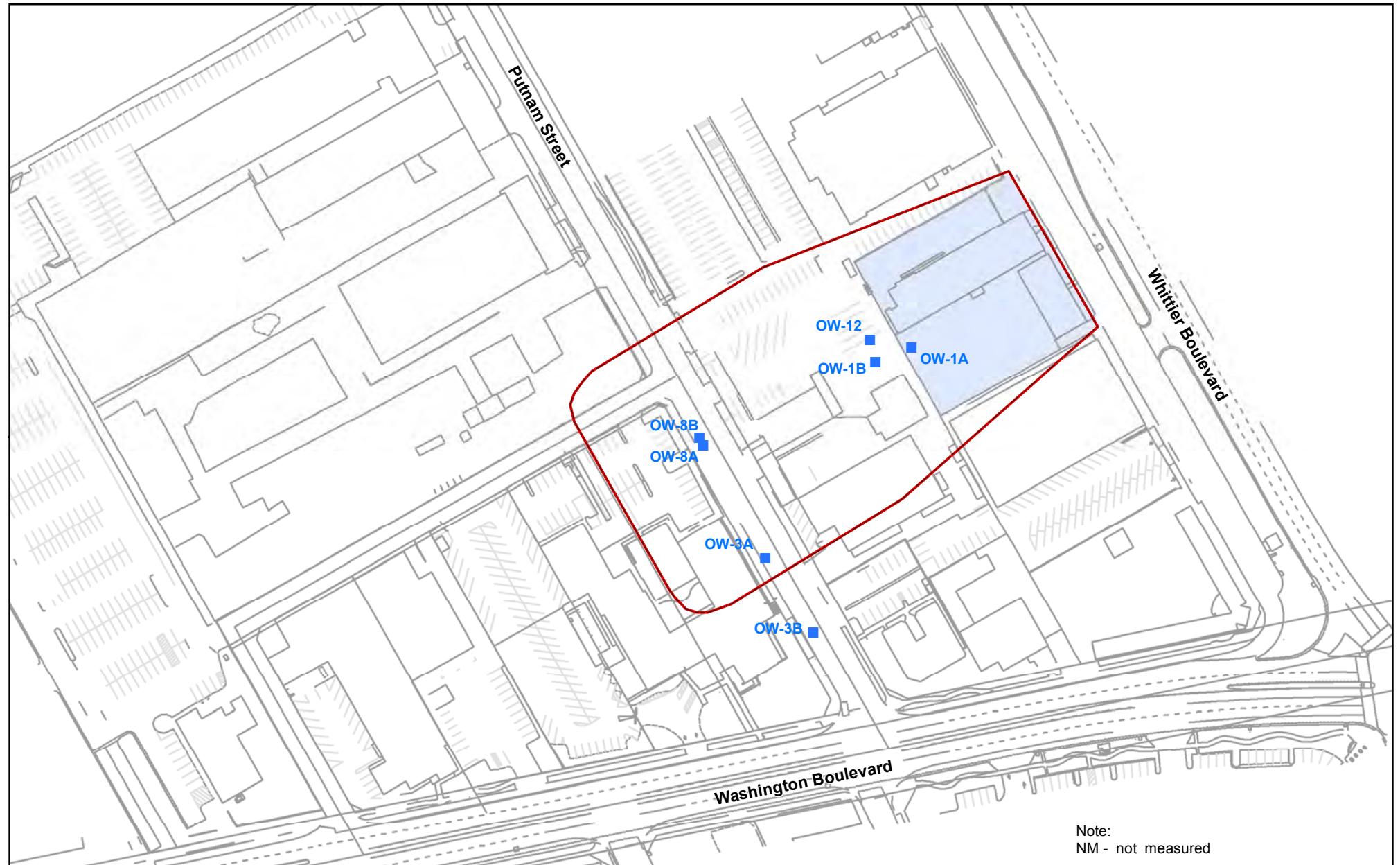
- Phase Ia Area
- Former Omega Chemical Property
- Groundwater Elevation Contour - Dashed where Inferred (Feet above mean sea level)

Groundwater Flow Direction

- Extraction Well
- Shallow Observation Well / Piezometer
- Dual Phase Extraction Well Location



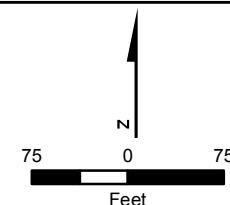
**Omega Chemical**  
Shallow Zone  
Groundwater Contour Map  
June 6, 2018  
**Figure A-1**

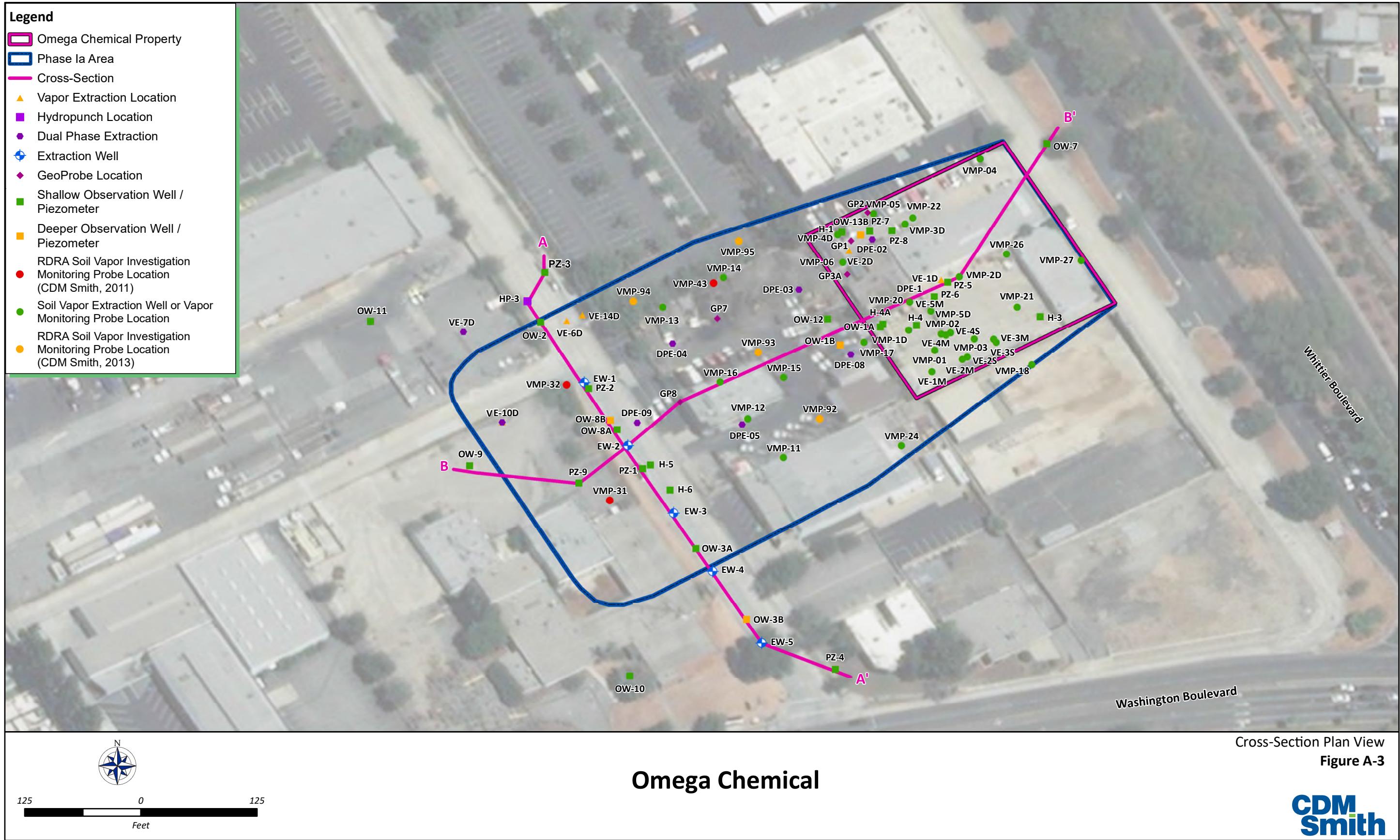


**Legend**

- Phase Ia Area
- Former Omega Chemical Property
- Observation Well Pair (A-zone/B-zone)

**Omega Chemical  
A-zone/B-zone Well Pairs**



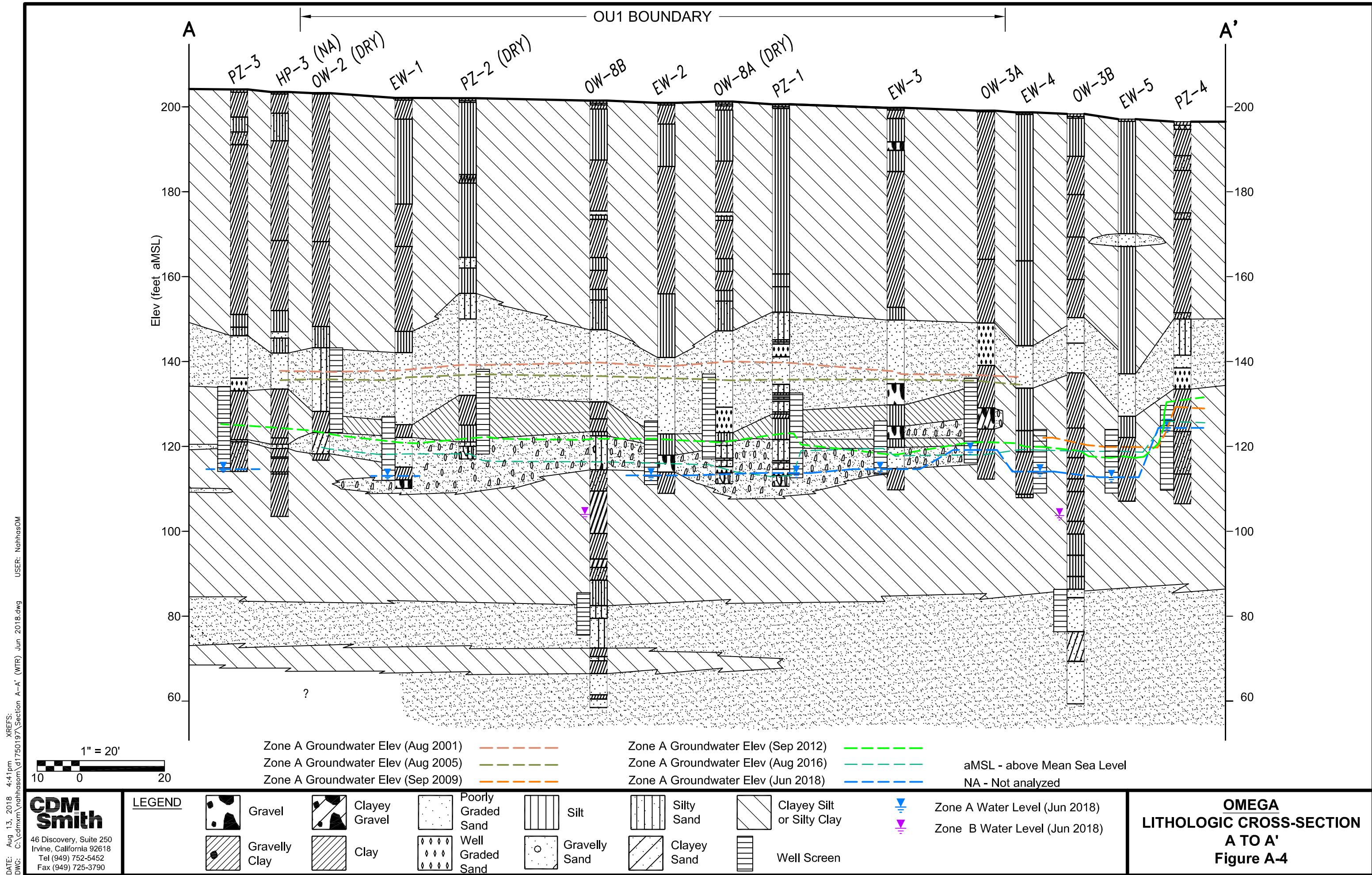


Omega Chemical

## Cross-Section Plan View

### Figure A-3

**CDM  
Smith**



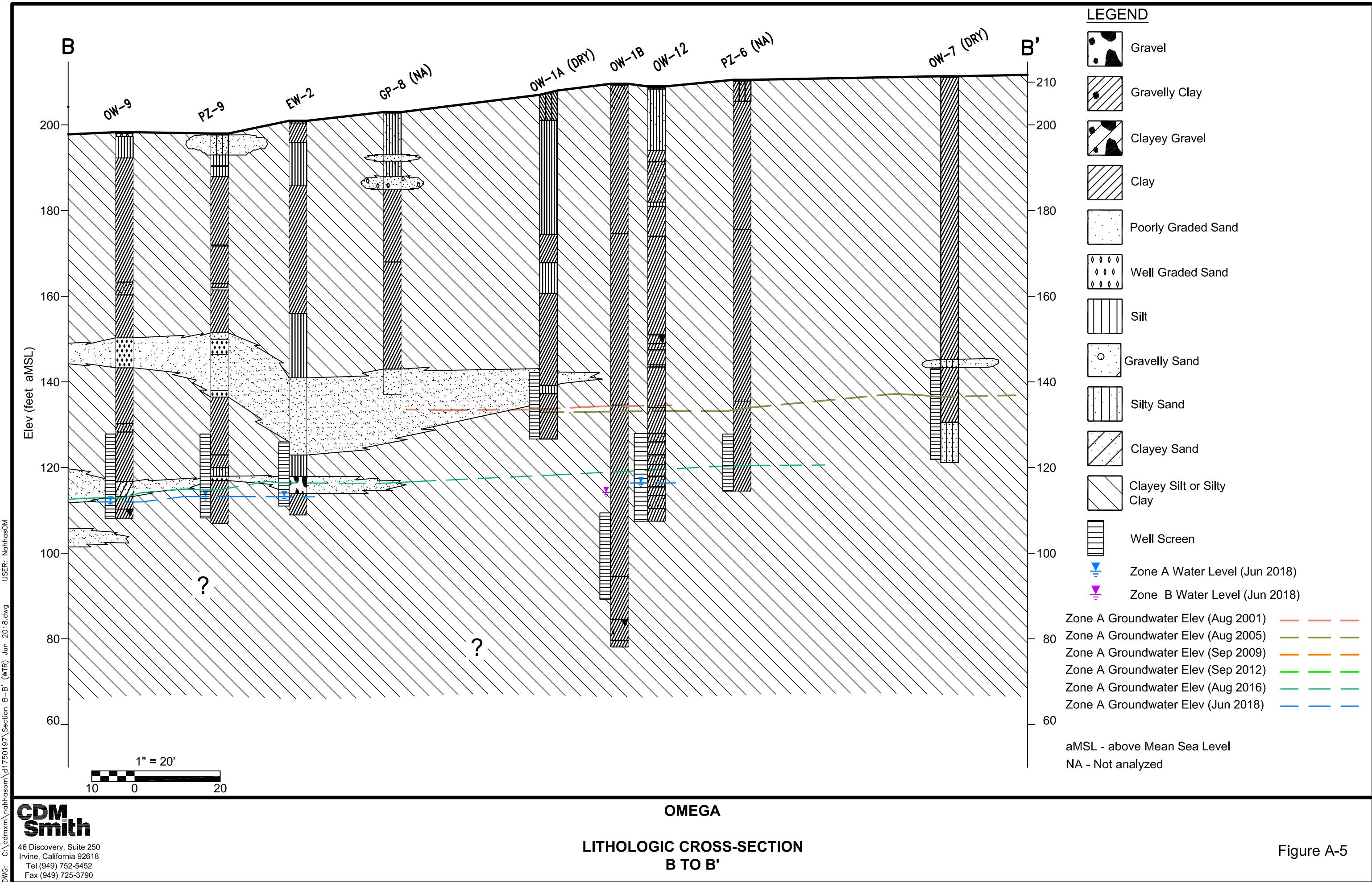
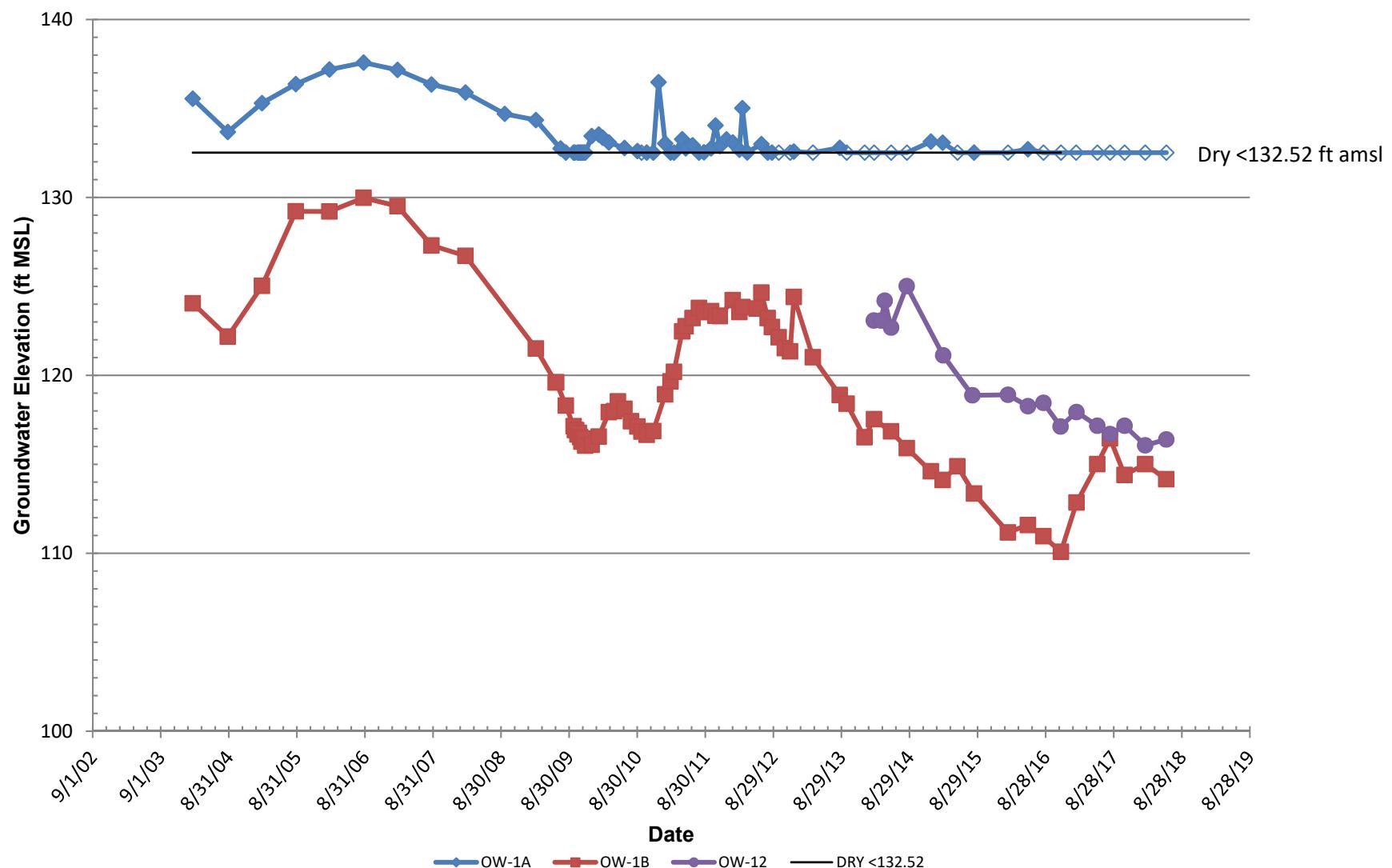
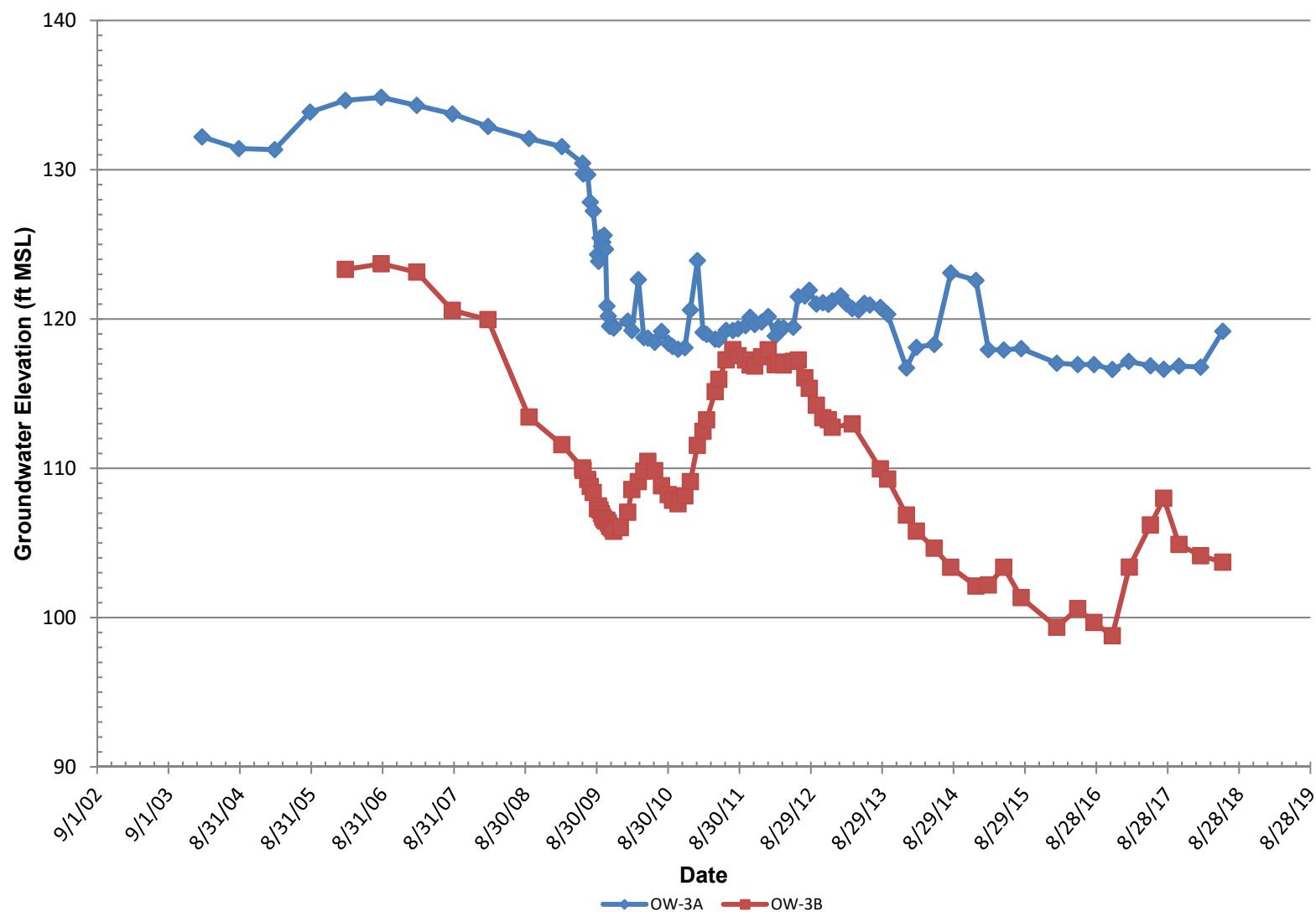


Figure A-5

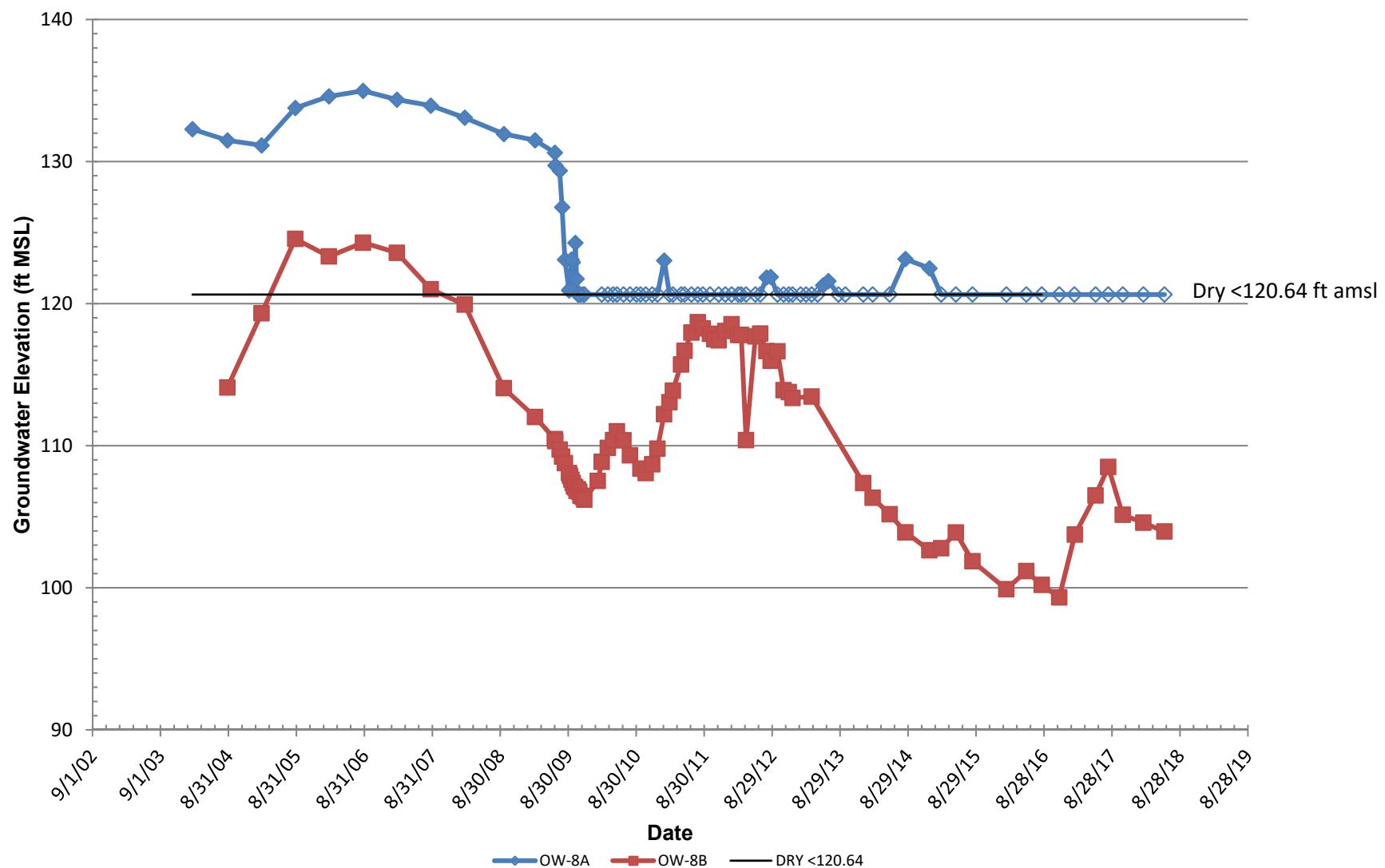
**Figure A-6**  
**Omega Chemical Superfund Site**  
**OW-1A, OW-1B, and OW-12 Well Hydrographs**  
**2004 to 2018**



**Figure A-7**  
**Omega Chemical Superfund Site**  
**OW-3A and OW-3B Well Hydrographs**  
**2004 to 2018**



**Figure A-8**  
**Omega Chemical Superfund Site**  
**OW-8A and OW-8B Well Hydrographs**  
**2004 to 2018**



## **ATTACHMENT B**

### **PSVP Piezometric Data**

**Attachment B, Table B-1**  
**Piezometric Monitoring Data**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Second Quarter 2018**

Well No.	Top of Casing Elevation (feet MSL)	Screen Interval (feet MSL)	Date	Depth To Water (feet btoc)	Groundwater Elevation (feet MSL)
EW-1	198.96	114.94 - 129.94	6/6/2018	85.91	113.05
EW-2	197.87	113.77 - 128.77	6/6/2018	84.71	113.16
EW-3	196.78	114.59 - 129.59	6/6/2018	82.15	114.63
EW-4	195.79	112.73 - 127.73	6/6/2018	81.73	114.06
EW-5	194.19	111.96 - 126.96	6/6/2018	81.45	112.74
PZ-1	200.26	112.65 - 132.65	6/6/2018	86.51	113.75
PZ-2	201.48	118.02 - 138.02	6/6/2018	Dry	Dry
PZ-3	203.72	114.40 - 134.40	6/6/2018	89.08	114.64
PZ-4	196.26	106.66 - 126.66	6/6/2018	71.88	124.38
OW1A	212.53	132.47 - 147.47	6/6/2018	Dry	Dry
OW1B	207.22	87.42 - 97.42	6/6/2018	93.06	114.16
OW2	202.33	123.23 - 143.23	6/6/2018	Dry	Dry
OW3A	198.58	116.13 - 136.13	6/6/2018	79.40	119.18
OW3B	197.38	75.79 - 85.79	6/6/2018	93.67	103.71
OW7	214.29	124.69 - 144.69	6/6/2018	Dry	Dry
OW8A	200.66	121.33 - 140.93	6/6/2018	Dry	Dry
OW8B	200.84	75.39 - 85.39	6/6/2018	96.88	103.96
OW9	198.07	108.42 - 128.42	6/6/2018	86.12	111.95
OW10	195.54	106.46 - 126.46	6/6/2018	76.25	119.29
OW12	208.42	108.97 - 128.97	6/6/2018	92.02	116.40

Notes:

Elevation data per California Coordinate System NADV88

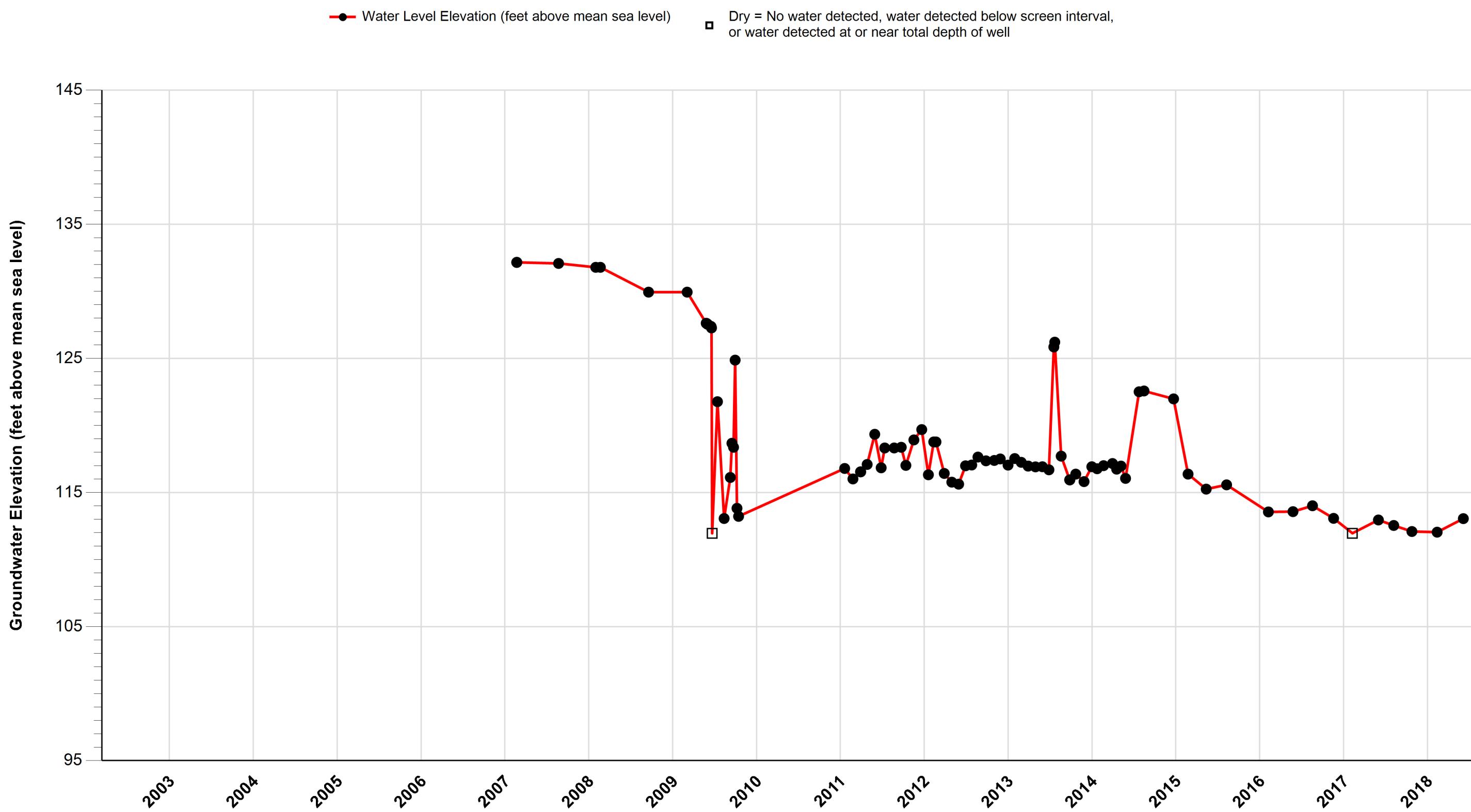
btoc = below top of casing

Dry = No water detected, water detected below the screen interval, or water detected at or near total depth of well

MSL = mean sea level

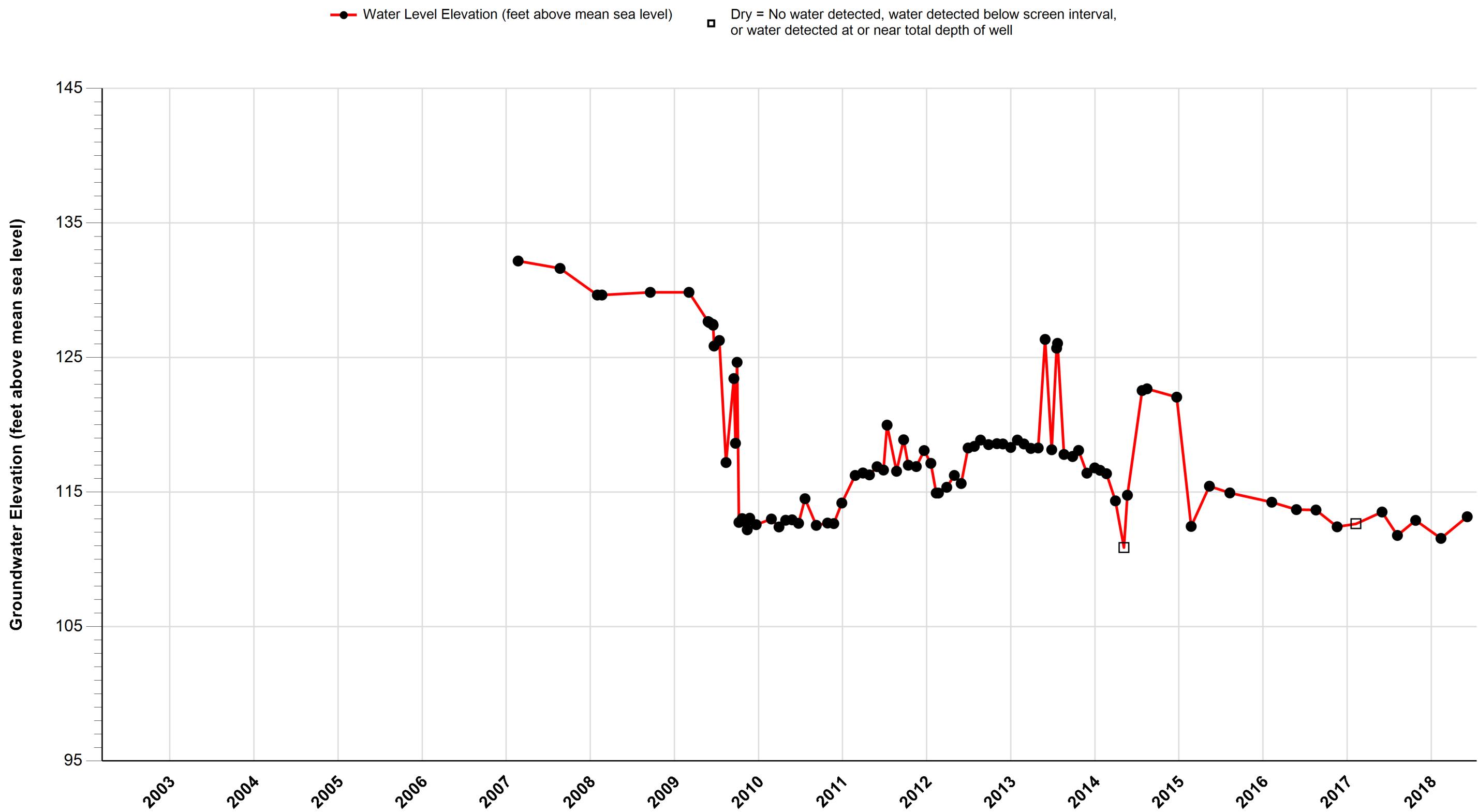
**Attachment B, Figure B-1**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

**EW-1**



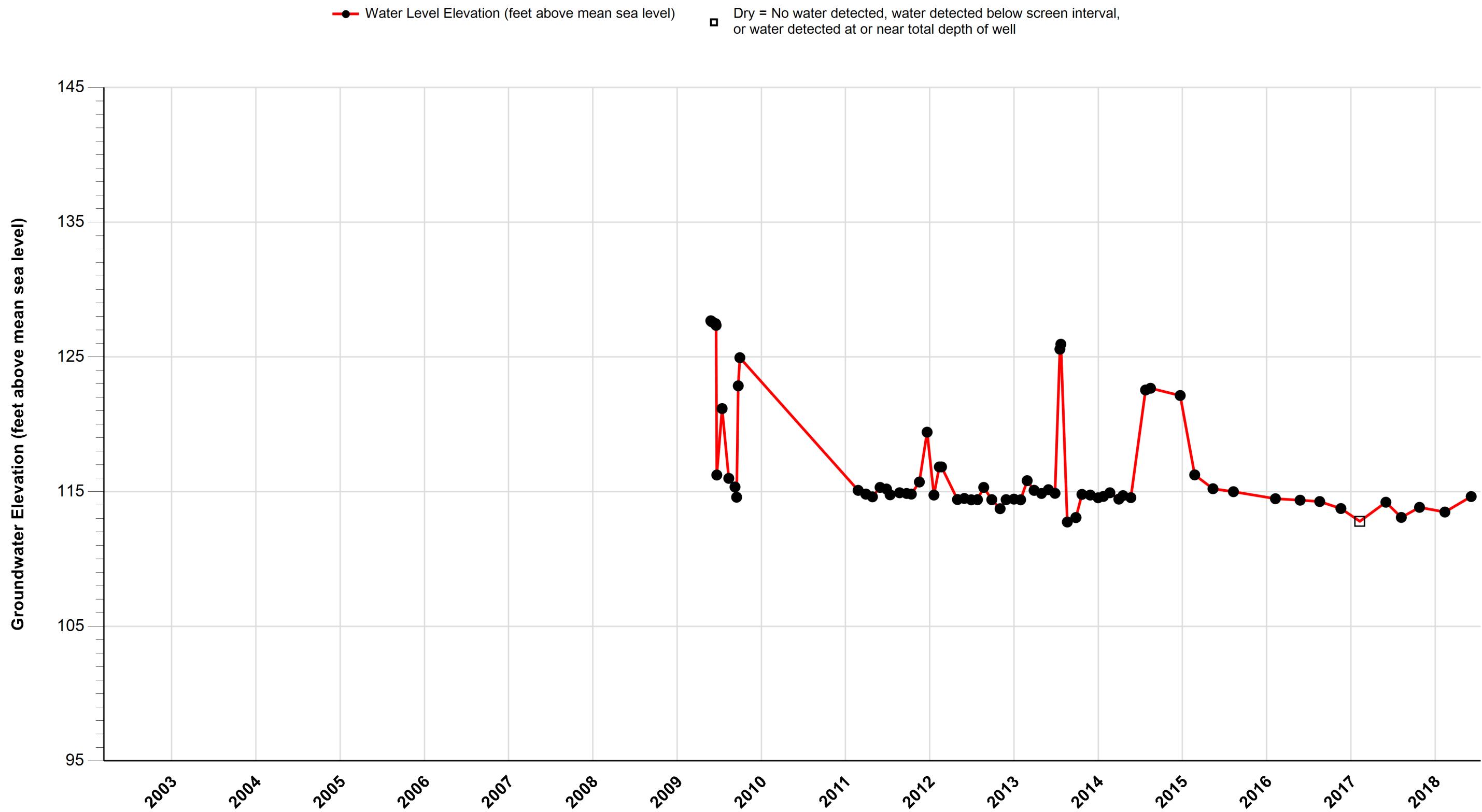
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**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
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**EW-2**



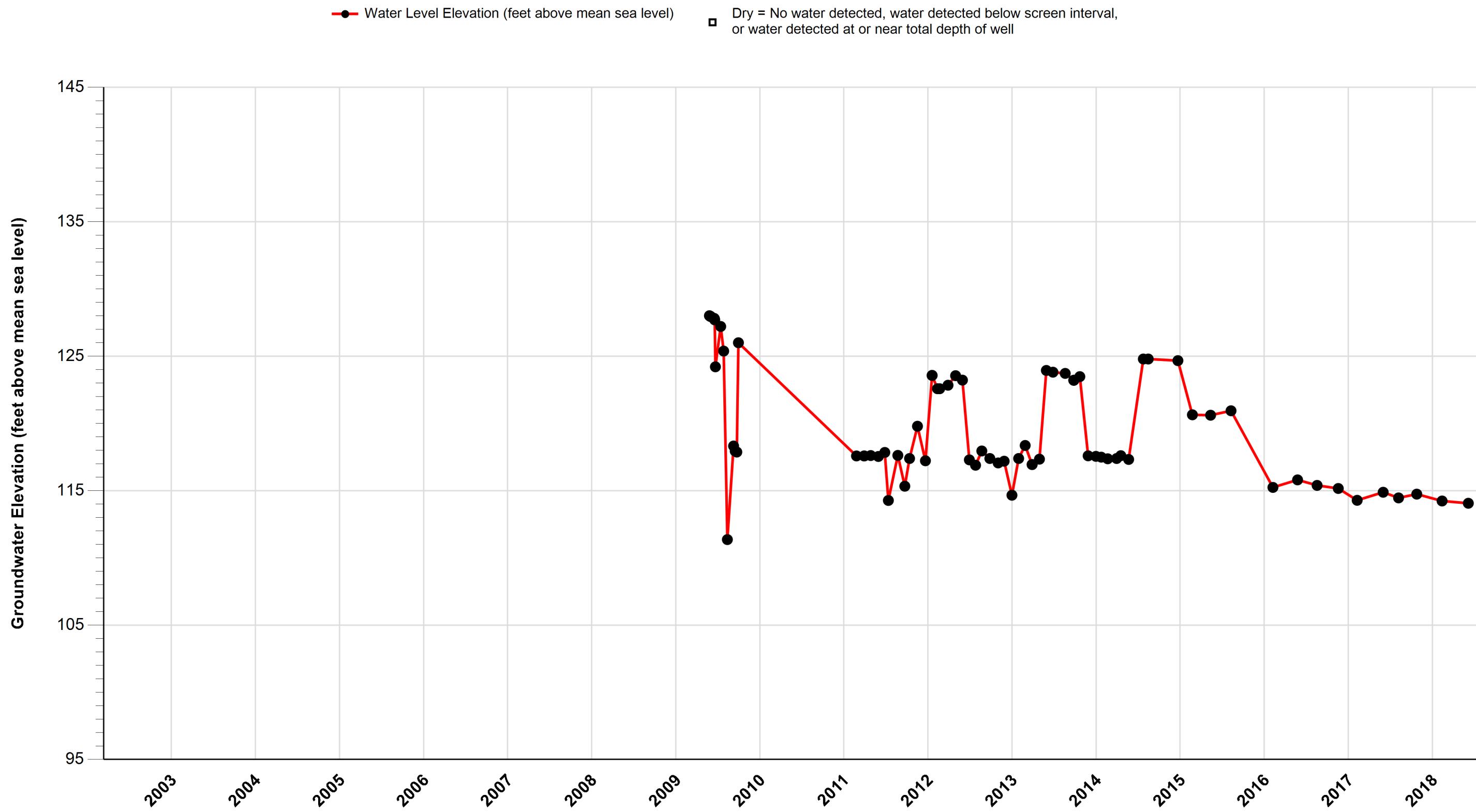
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**EW-3**



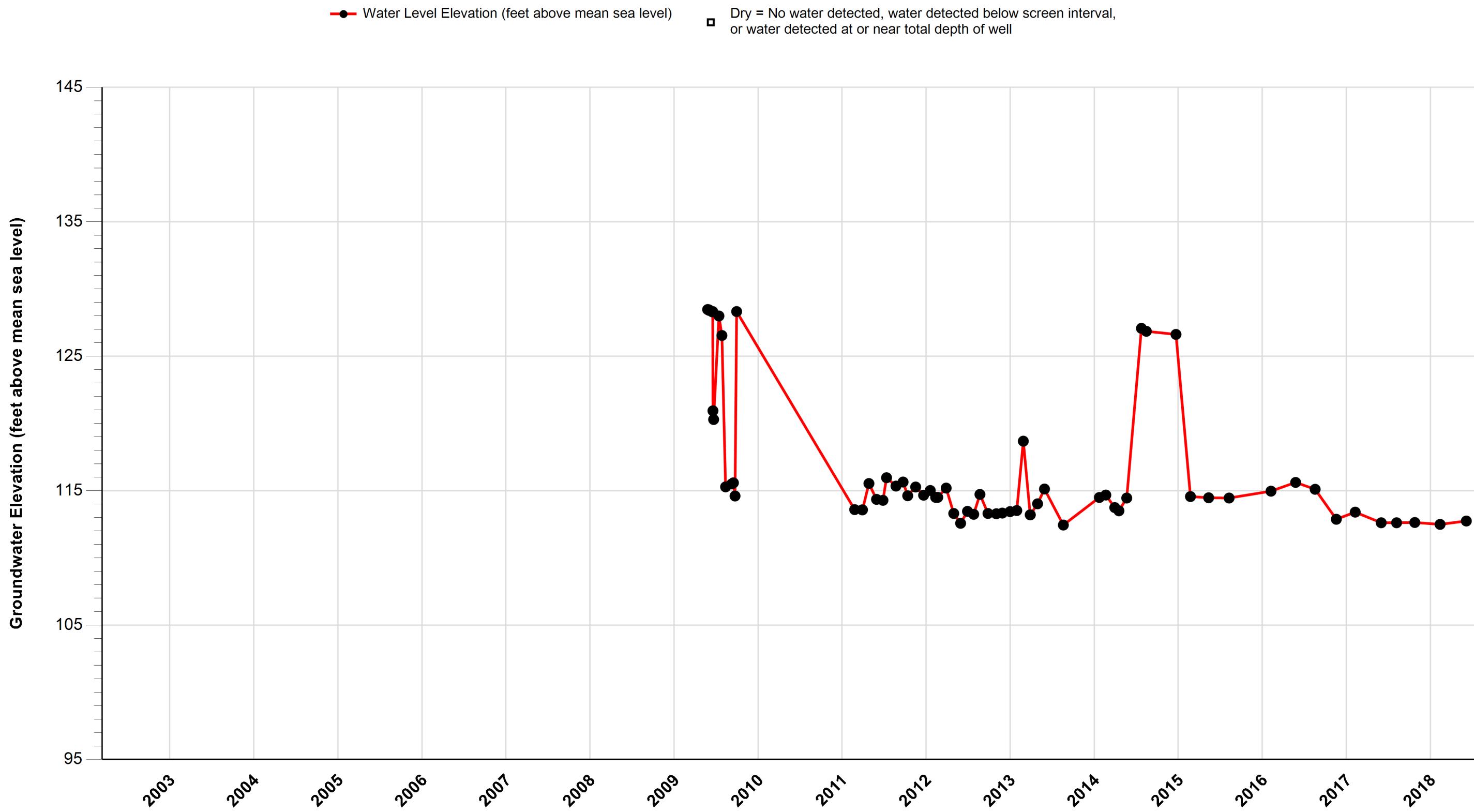
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**EW-4**



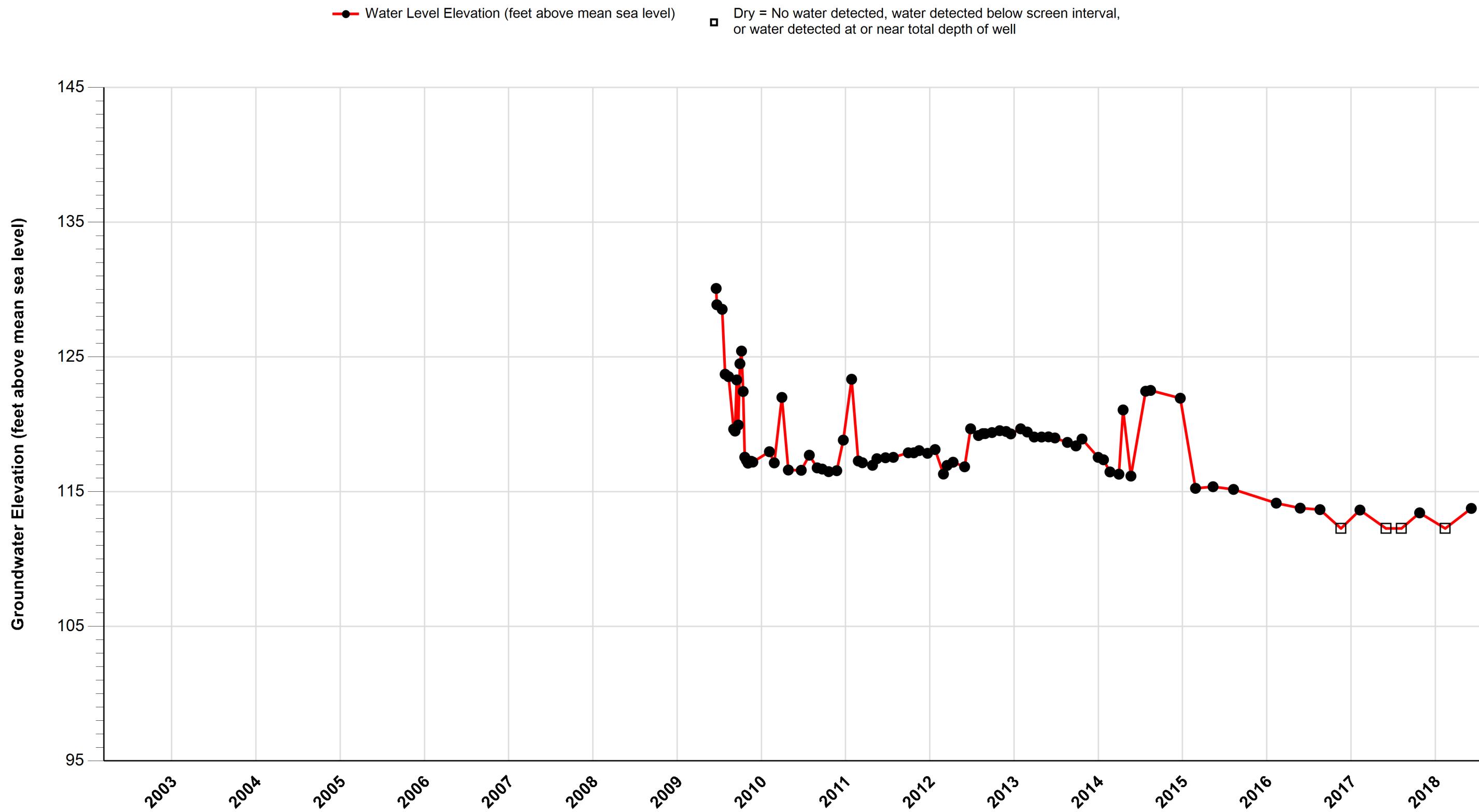
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**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

**EW-5**



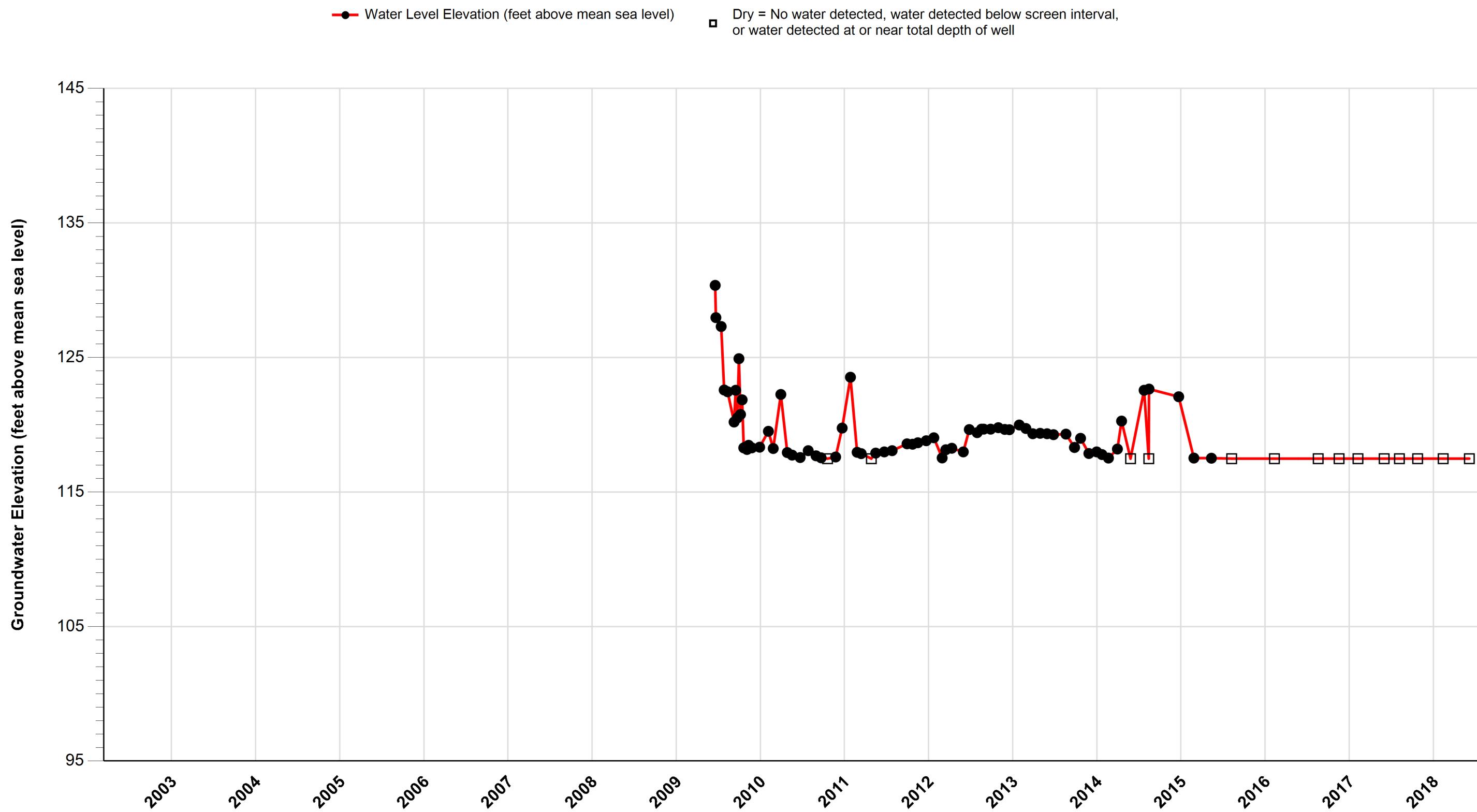
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**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

**PZ-1**



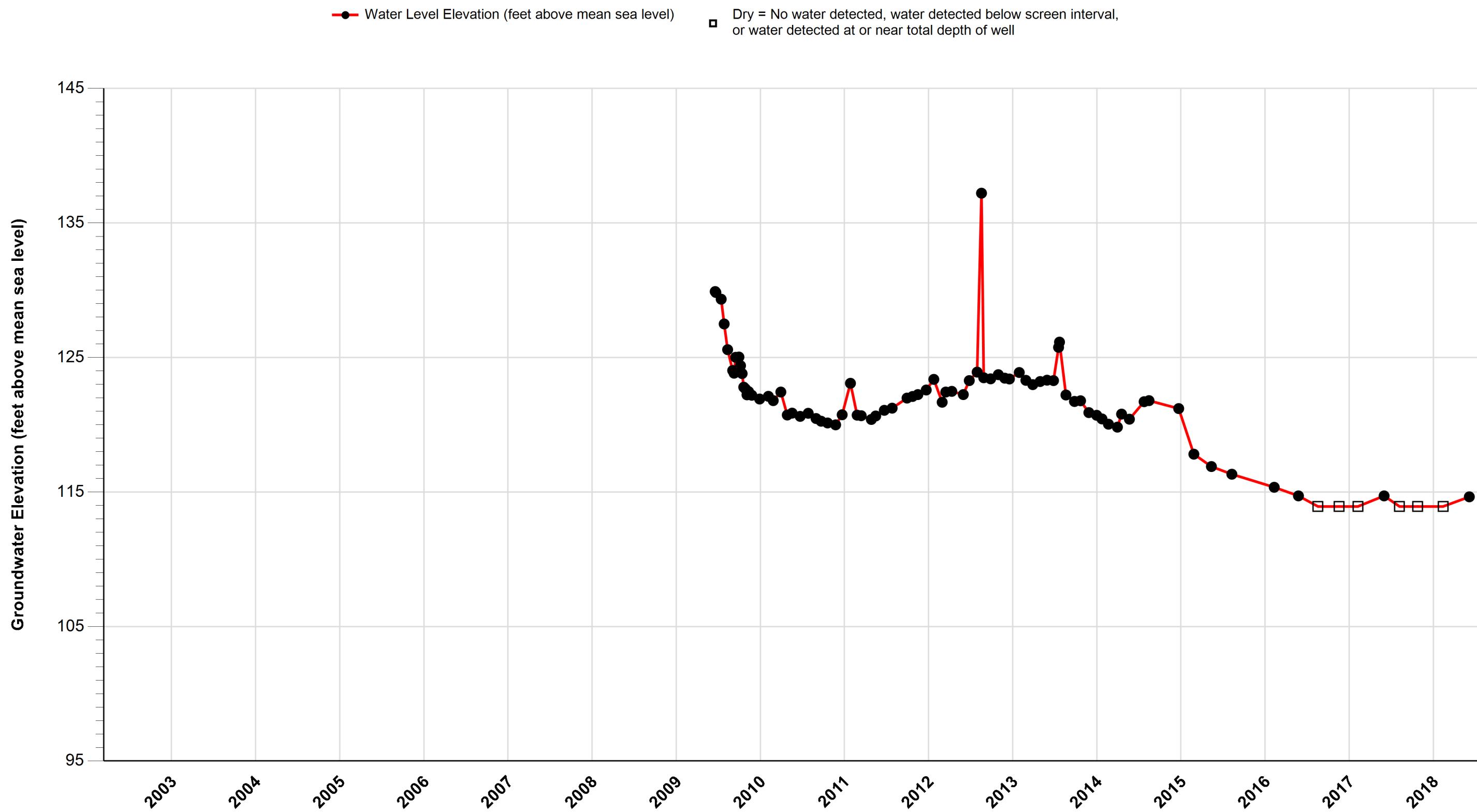
**Attachment B, Figure B-7**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

**PZ-2**



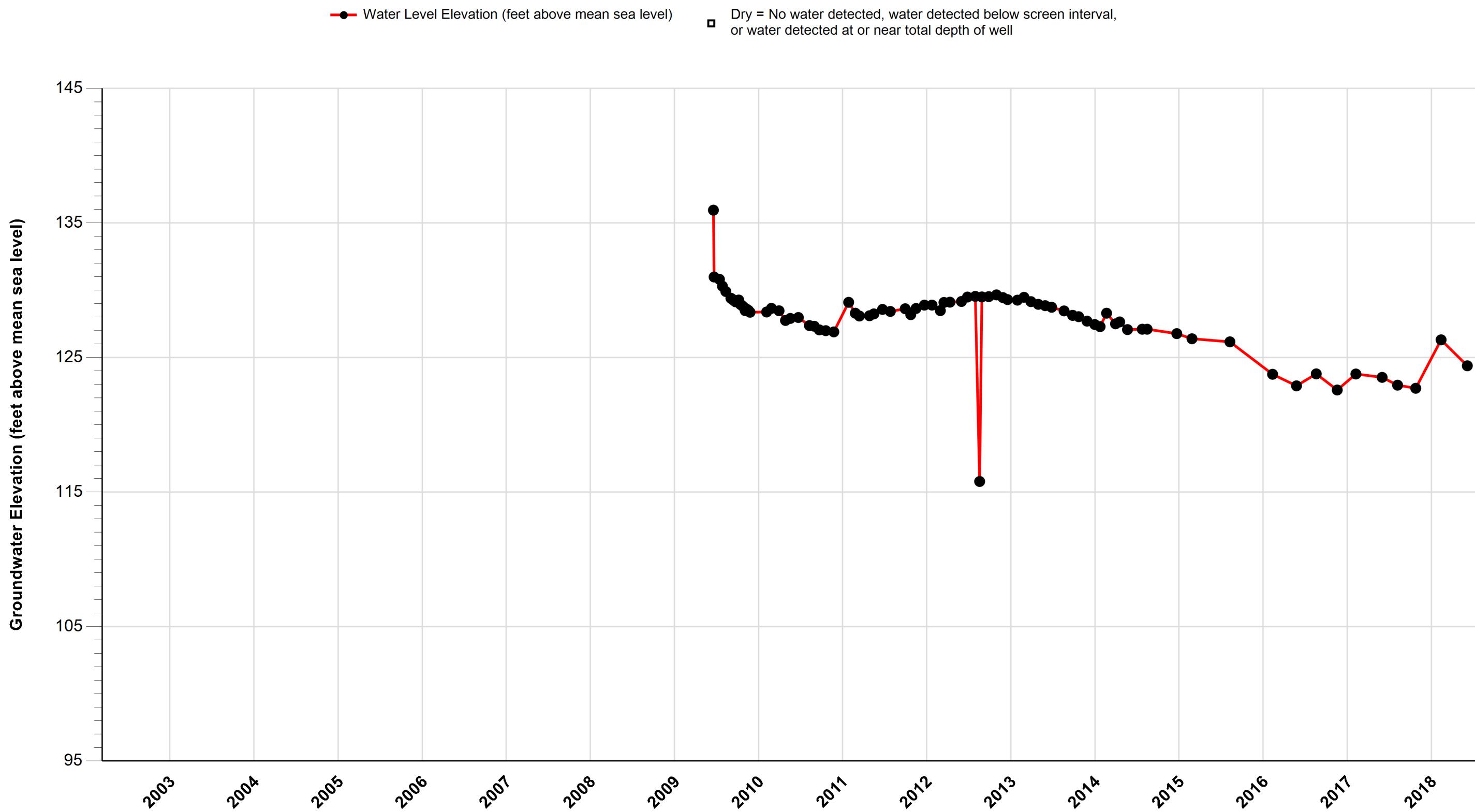
**Attachment B, Figure B-8**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

**PZ-3**

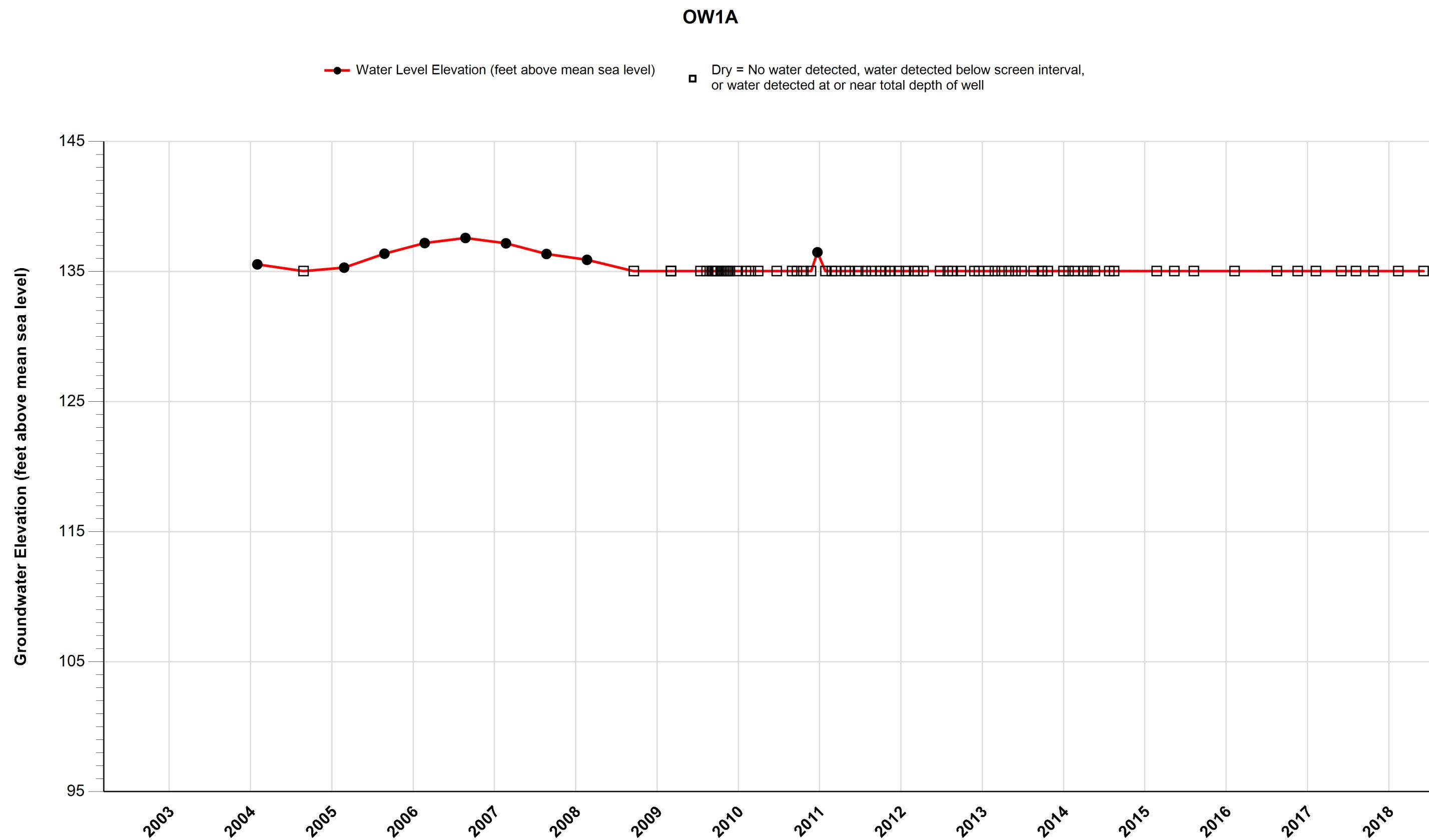


**Attachment B, Figure B-9**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

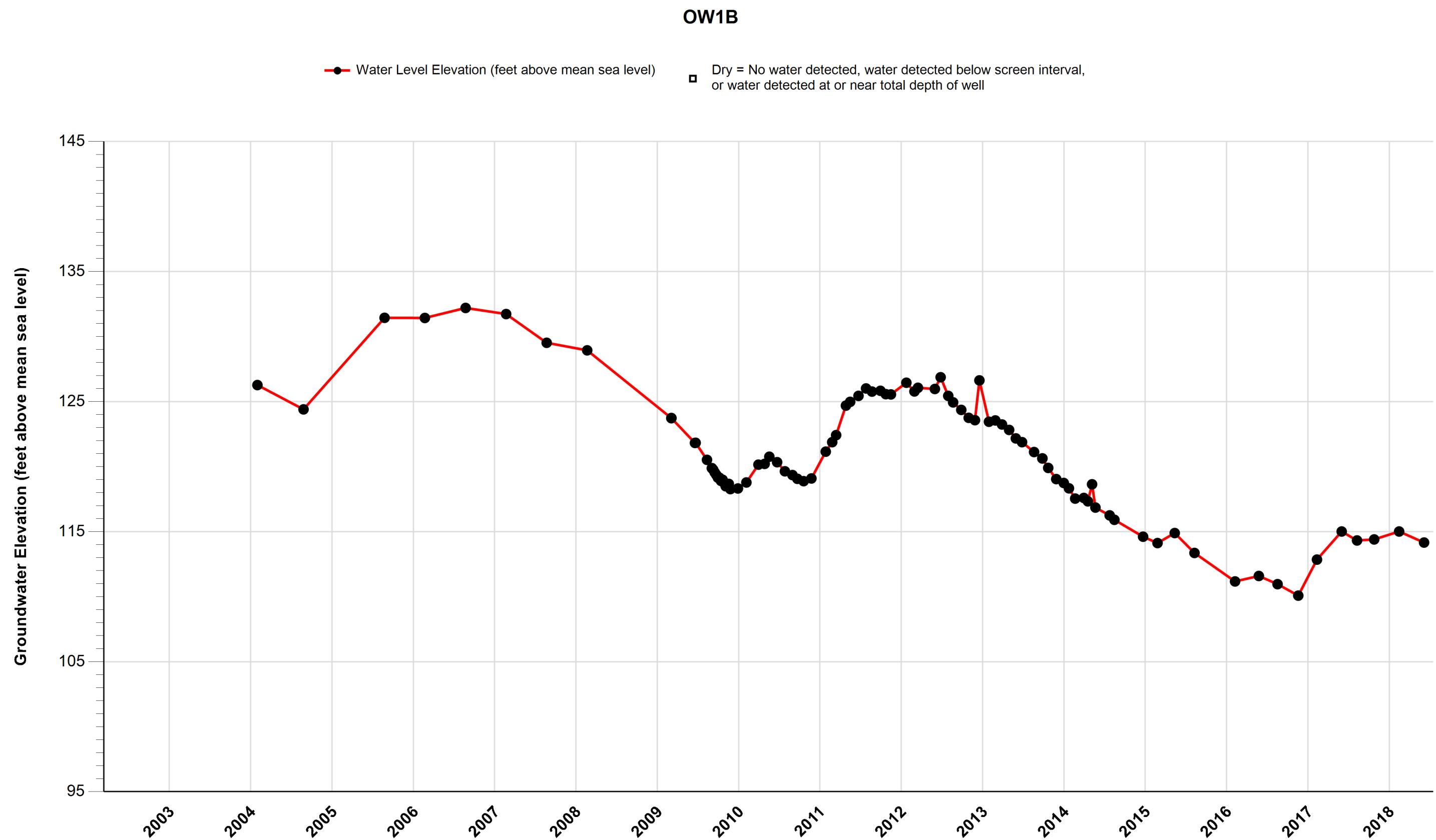
**PZ-4**



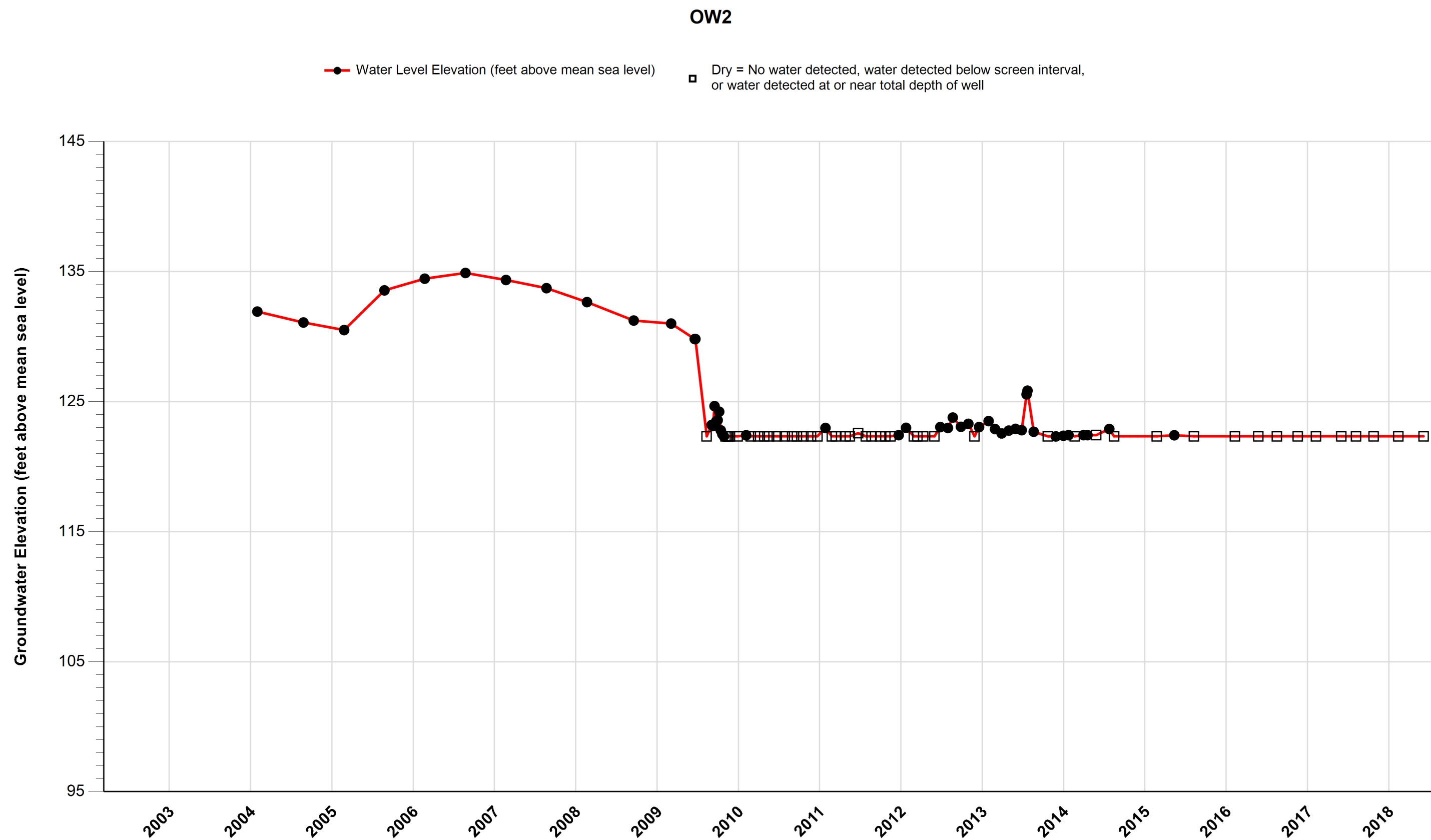
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**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**



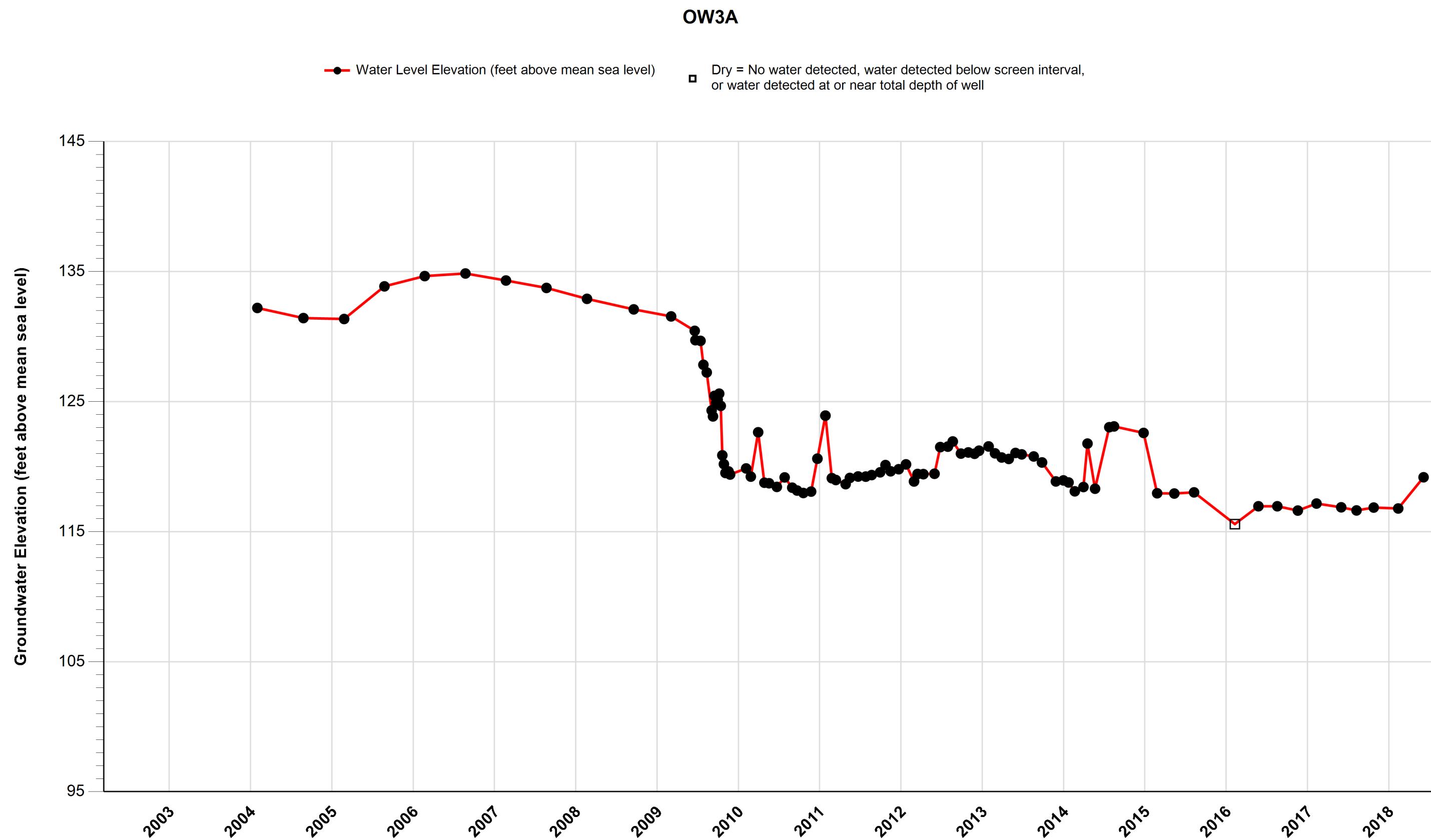
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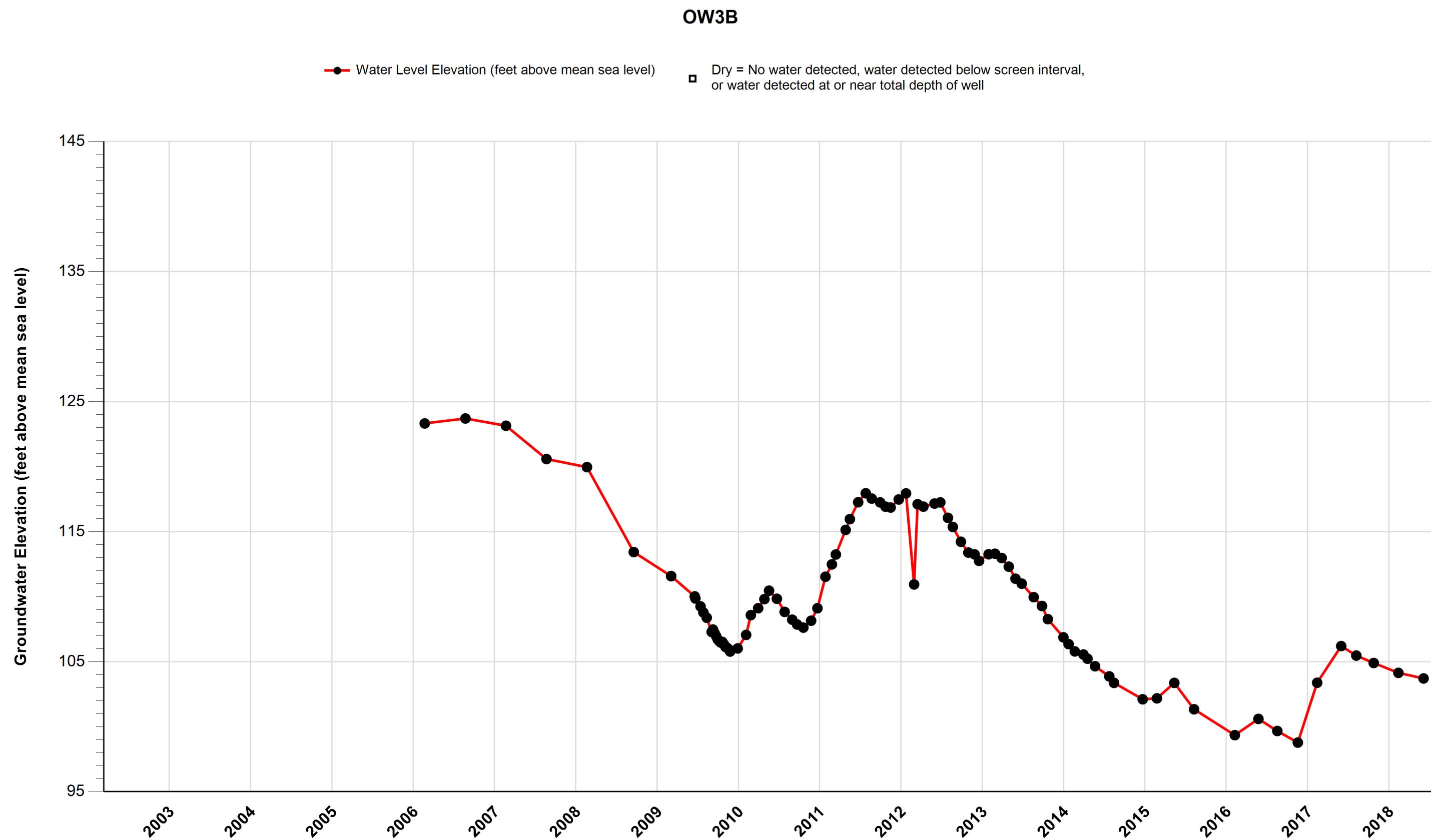
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**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**



**Attachment B, Figure B-13**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

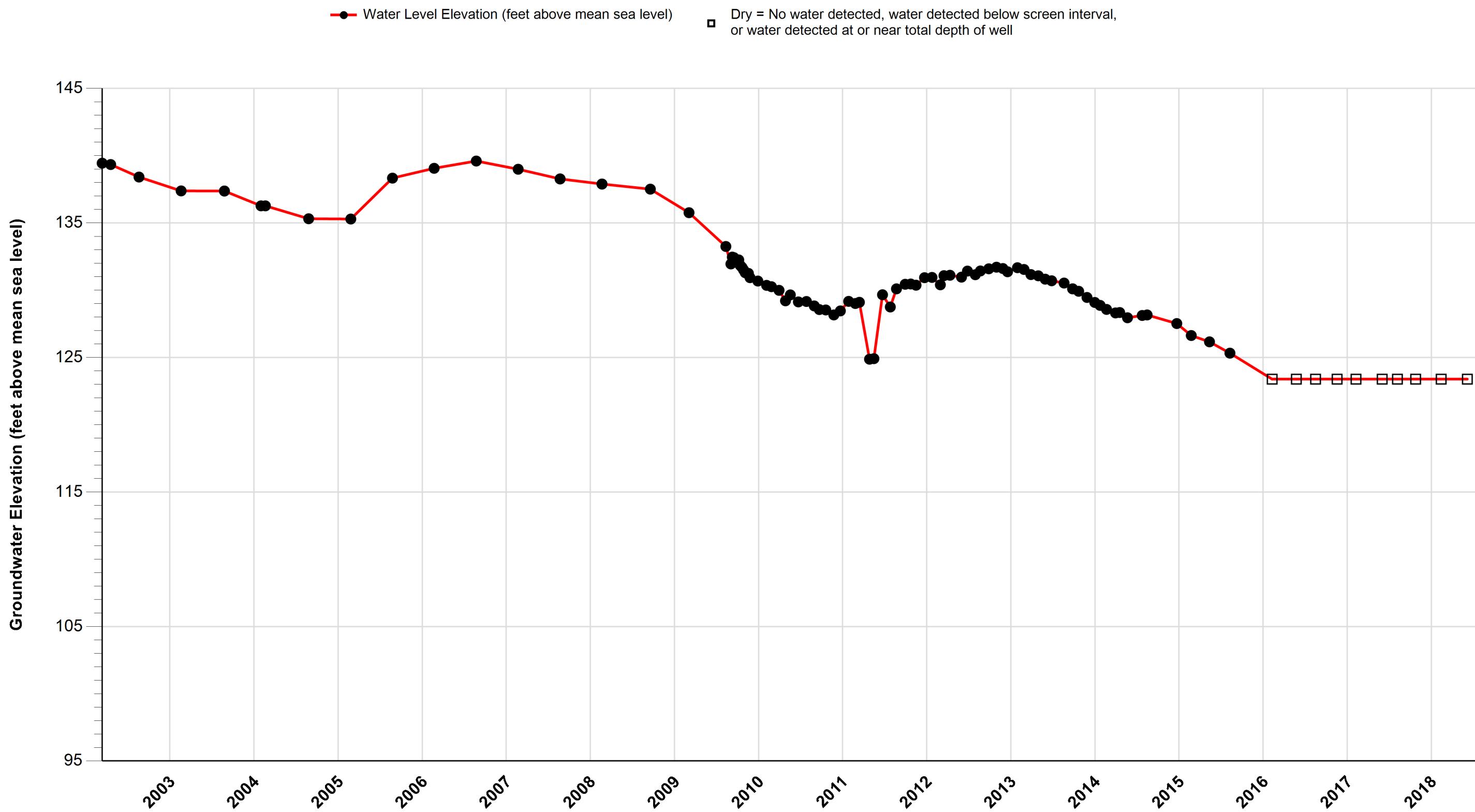


**Attachment B, Figure B-14**  
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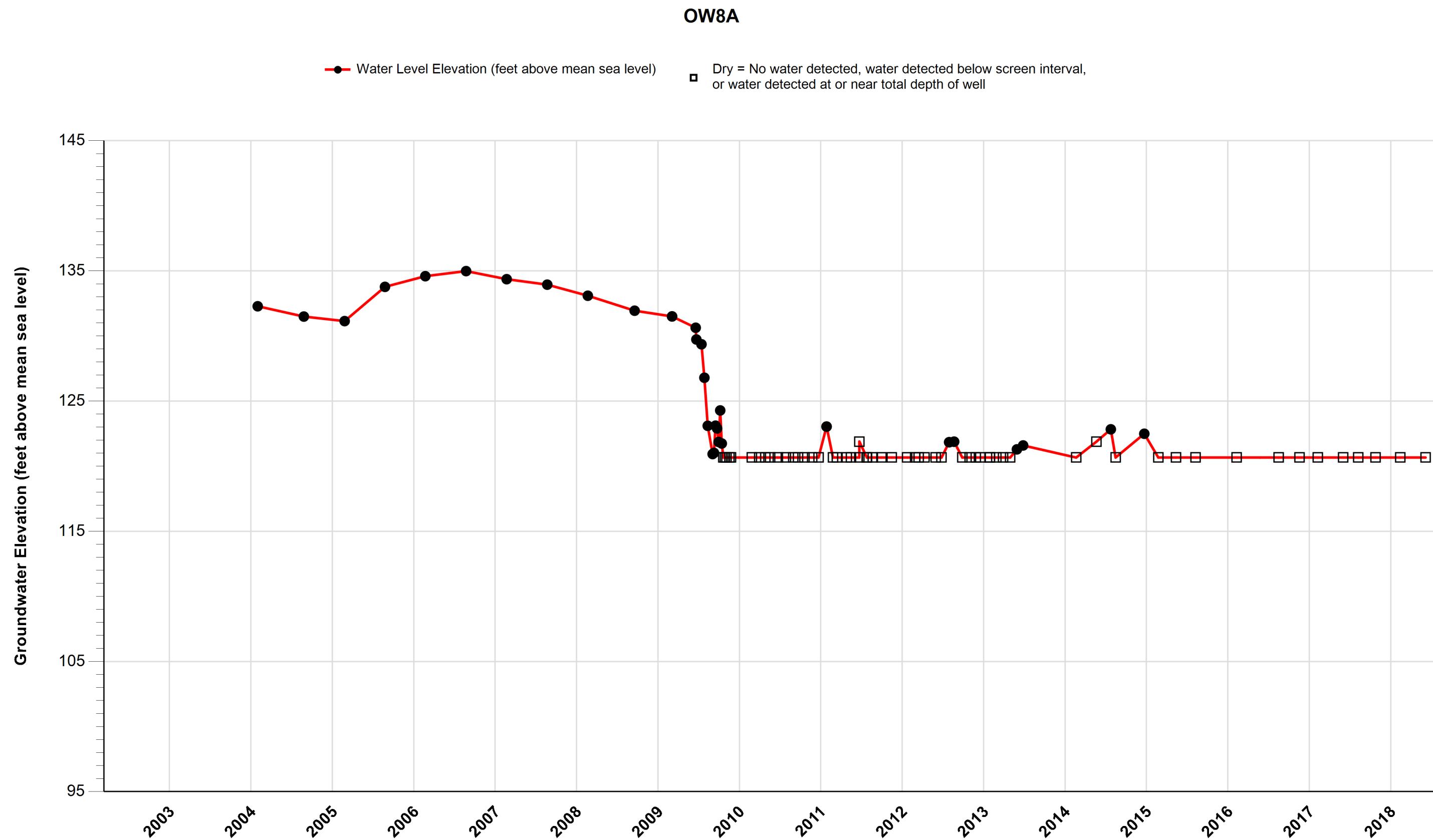


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**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
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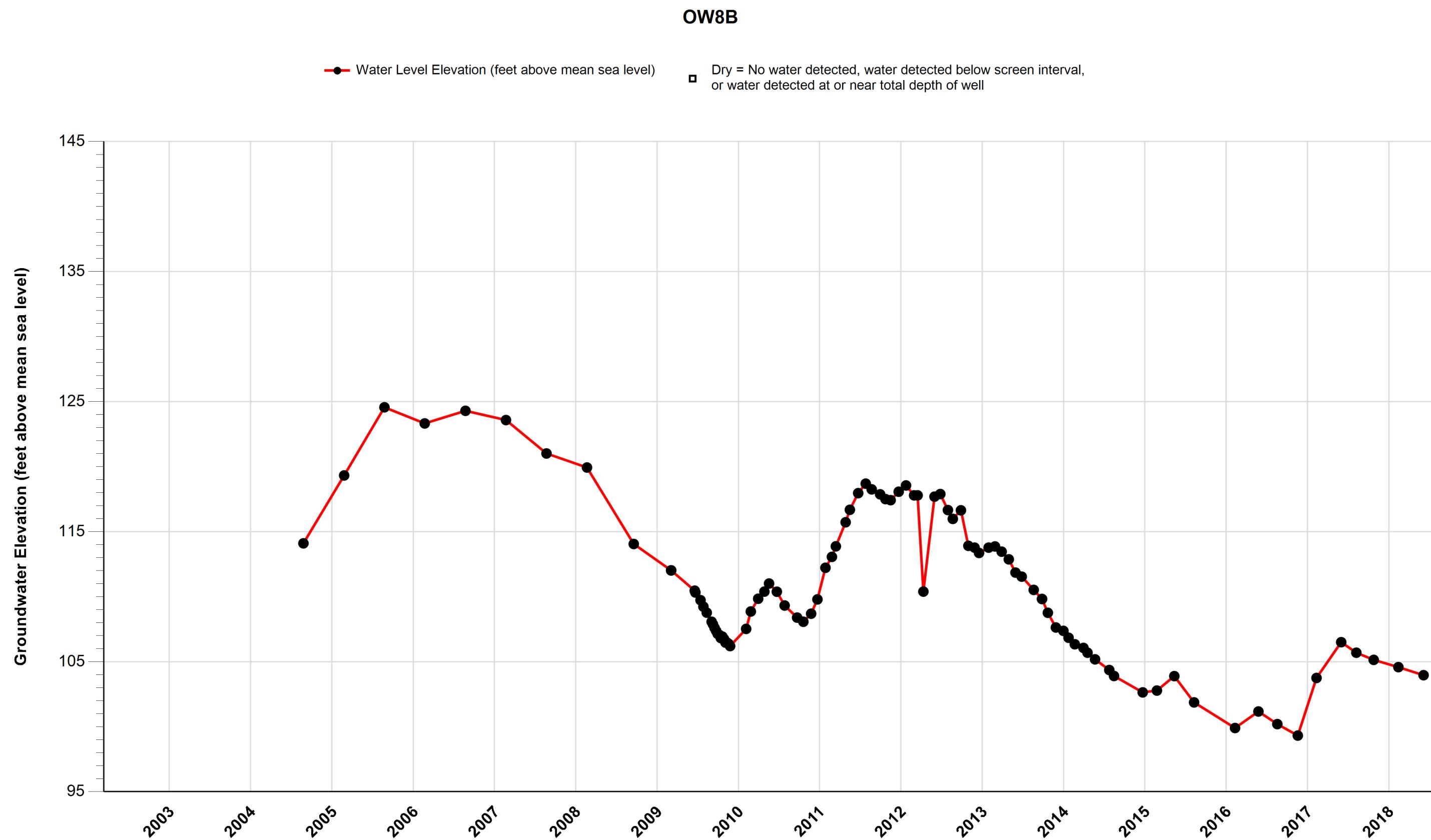
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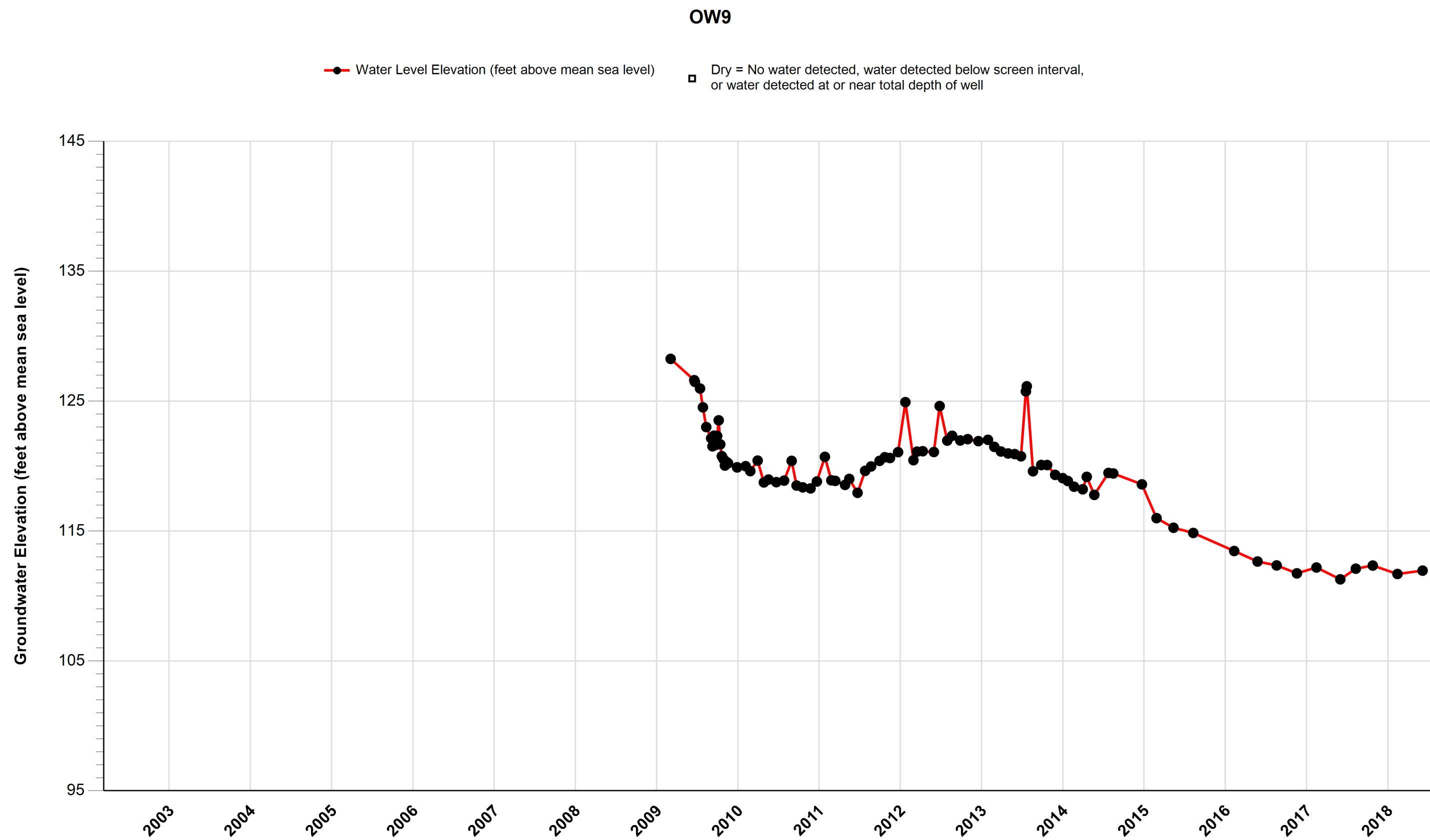
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**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
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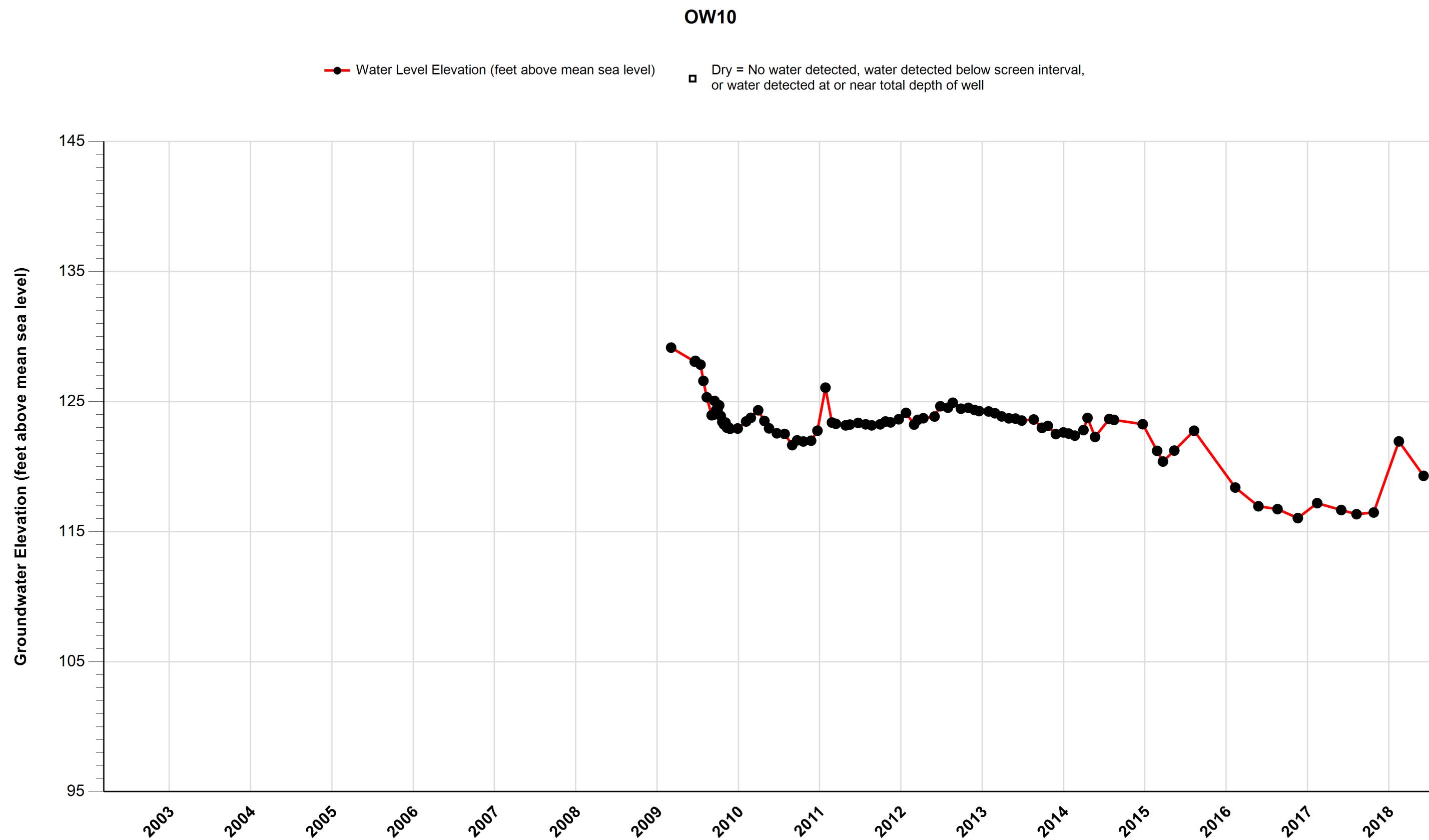
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**PSVP Piezometric Data**



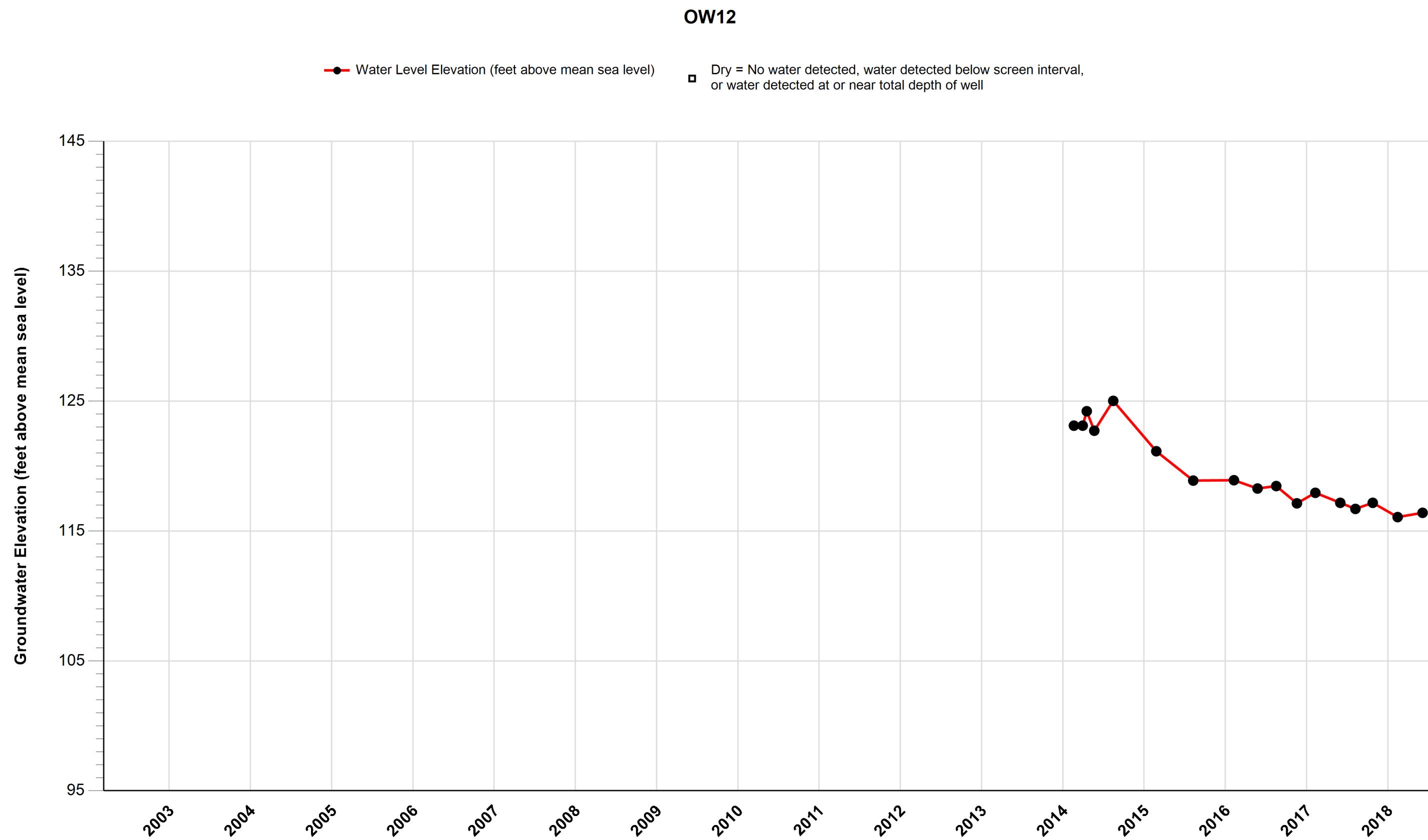
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**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**



**Attachment B, Figure B-19**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**



**Attachment B, Figure B-20**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**



## **ATTACHMENT C**

### **Field Forms**

**OMEGA**  
**DAILY FIELD REPORT**

Project Name: Omega Chemical		Project #: E742	Date: 6/6/18
Personnel: K. Arher	Subcontractors: —		
Arrival Time: 0830	Departure Time: 1630	Hours on Site: 8.0	
Odometer (Start): —	Odometer (End): —	Total Miles: —	
Task Description: OU-1 SVE OMM <input type="checkbox"/> OU-3 SVE OMM <input type="checkbox"/> GWCS OMM <input type="checkbox"/>			
GW Gaging			

**Equipment List:**

- |   |                               |                        |
|---|-------------------------------|------------------------|
| <input type="checkbox"/> Vacuum Meter                 | Type: Extech Manometer 407910 | Serial #: 2147350      |
| <input type="checkbox"/> Vacuum Meter                 | Type: Fluke 922 Low-Range     | Serial #: 98040163     |
| <input checked="" type="checkbox"/> PID               | Type: ppbMiniRAE 3000         | Serial #: 594-907978   |
| <input type="checkbox"/> Sample Pump                  | Type: Thomas Pump             | Serial #: 061000166406 |
| <input type="checkbox"/> Flow Meter                   | Type: Velocicalc 9565         | Serial #: 9565P1531034 |
| <input checked="" type="checkbox"/> Water Level Meter | Type: Solinst 101             | Serial #: 48231        |
| <input type="checkbox"/> Water Quality Meter          | Type: _____                   | Serial #: _____        |
| <input type="checkbox"/> Generator/Battery            | Type: _____                   | Serial #: _____        |
| <input type="checkbox"/> Other(s): _____              |                               |                        |

---

**Description of Work Performed:** (Summarize all field activities in a chronological sequence. Include tailgate health and safety meeting, personnel / visitors at site, and calibration times and methods).

---

0830 Arrive onsite. H+S. Get paperwork ready.  
 0930 Mobilize equipment. Calibrate PID (0809 ppb).  
 1000 Start gaging.  
 1300 Finish. Demobilize equipment. Enter in gw gaging data.  
 1630 clean up. off site.

---



## DAILY SAFETY MEETING

Project Name: Omega Chemical

Date: 6/6/18

Project Number: E742

Presented by: Khalid Azhar

### Check the Topics/Information Reviewed:

- |  |   |  |
|--|---|--|
| <input checked="" type="checkbox"/> Safety is everyone's responsibility        | <input checked="" type="checkbox"/> Smoking in designated areas                   | <input type="checkbox"/> Upgrade to Level C at: PID ( <u>  </u> eV) > <u>  </u> ppmv         |
| <input checked="" type="checkbox"/> Accidents can be costly                    | <input checked="" type="checkbox"/> Parking and lay down area                     | <input type="checkbox"/> Work stoppage at: PID ( <u>  </u> eV) > <u>  </u> ppmv, % LEL > 10% |
| <input checked="" type="checkbox"/> No horseplay                               | <input checked="" type="checkbox"/> Leather gloves for protection                 | <input type="checkbox"/> All underground utilities cleared?                                  |
| <input checked="" type="checkbox"/> Site health and safety plan reviewed       | <input checked="" type="checkbox"/> Vehicle backing up hazards                    | <input checked="" type="checkbox"/> Flex-N-Stretch performed                                 |
| <input checked="" type="checkbox"/> Review emergency protocol                  | <input checked="" type="checkbox"/> Sharp object, rebar, and scrap metal hazards  | <input checked="" type="checkbox"/> Anticipated visitors                                     |
| <input checked="" type="checkbox"/> Directions to hospital ( <u>PNA</u> )      | <input checked="" type="checkbox"/> Effects of the night before?                  | <input type="checkbox"/> Temporary Power Lines   |
| <input checked="" type="checkbox"/> Employee Right-To-Know/SDS location        | <input checked="" type="checkbox"/> Weather conditions (rain/snow)                | <input type="checkbox"/> Overhead Utilities  |
| <input checked="" type="checkbox"/> First aid, safety, and PPE location        | <input checked="" type="checkbox"/> Latex gloves inner/nitrile gloves outer       | <input type="checkbox"/> Excavations/Trenches (competent person)                             |
| <input checked="" type="checkbox"/> Safety glasses, hard hat, safety boots     | <input checked="" type="checkbox"/> Vibration related injuries                    | <input type="checkbox"/> Heavy Equipment Operations  |
| <input checked="" type="checkbox"/> Fire extinguisher locations                | <input checked="" type="checkbox"/> Open pits, excavations, and trenching hazards | <input checked="" type="checkbox"/> Overloaded Equipment (tipping)                           |
| <input checked="" type="checkbox"/> Daily work scope reviewed                  | <input checked="" type="checkbox"/> Noise hazards                                 | <input checked="" type="checkbox"/> Heavy Lifting  |
| <input checked="" type="checkbox"/> Strains and sprains                        | <input checked="" type="checkbox"/> Dust and vapor control                        | <input checked="" type="checkbox"/> Traffic  |
| <input checked="" type="checkbox"/> Slips, trips, and falls                    | <input type="checkbox"/> Excavation/trenching inspections/documentation           | <input checked="" type="checkbox"/> Exclusion Zones  |
| <input checked="" type="checkbox"/> Eye wash station locations                 | <input type="checkbox"/> Confined space entry – permit required                   | <input checked="" type="checkbox"/> Uneven Terrain   |
| <input checked="" type="checkbox"/> Electrical ground fault                    | <input type="checkbox"/> Confined space entry – non-permit required               | <input checked="" type="checkbox"/> Chemicals  |
| <input checked="" type="checkbox"/> Vehicle safety and driving/road conditions | <input type="checkbox"/> Refueling procedures                                     | <input checked="" type="checkbox"/> Flammability   |
| <input checked="" type="checkbox"/> Public safety and fences                   | <input type="checkbox"/> Full face respirators with proper cartridges             | <input checked="" type="checkbox"/> Wet Surfaces   |
| <input checked="" type="checkbox"/> Heat and cold stress                       | <input type="checkbox"/> Hot work permits   | <input checked="" type="checkbox"/> Ladder Safety  |
| <input checked="" type="checkbox"/> Equipment and machinery familiarization    | <input checked="" type="checkbox"/> Flying debris hazards                         | <input checked="" type="checkbox"/> Pinch Points   |
| <input type="checkbox"/> Excavator swing and loading                           | <input type="checkbox"/> Overhead utility locations cleared.                      | <input type="checkbox"/> Unexploded Ordnance (UXO) Hazard                                    |
| <input checked="" type="checkbox"/> Decontamination steps                      | <input checked="" type="checkbox"/> Poison ivy/oak/sumac/insects/animals          | <input checked="" type="checkbox"/> Daily Vehicle Walkaround/Inspection                      |
| <input checked="" type="checkbox"/> Portable tool safety and awareness         |   |  |
| <input checked="" type="checkbox"/> Orderly site and housekeeping              |   |  |

Other Discussion Items/Comments/Follow-up Actions: Stay hydrated

JHA Site Health and Safety Officer (SHSO) of the day: Khalid Azhar

NAME

SIGNATURE

COMPANY

Khalid Azhar

RSA

JHA

### Instructions:

- Conduct a daily safety meeting prior to beginning each day's site activities
- Complete form, obtain signatures, and file with the Daily Summary
- Follow-up on any noted items and document resolution of any action items.

**GROUNDWATER GAUGING FORM**  
**OMEGA CHEMICAL GROUNDWATER CONTAINMENT SYSTEM**  
 WHITTIER, CA

DATE:

6/6/18

TECHNICIAN(S): K. Azhar

Well ID	Well Diameter	Time (hh:mm)	PID (ppm)	Depth to Water (ft btoc)	Previous Depth to Water-Feb2018 (ft btoc)	Total Depth (ft btoc)	Previous Total Depth (ft btoc)	Screen Interval (ft btoc)
EW-1	6	1037	Ø	85.91	86.92	-	NM	72-87
EW-2	6	1108	Ø	84.71	86.32	-	NM	72-87
EW-3	6	1052	Ø	82.15	83.30	-	NM	70-85
EW-4	6	1058	Ø	81.73	81.56	-	NM	71-86
EW-5	6	1103	Ø	81.45	81.70	-	NM	70-85
PZ-1	2	1120	Ø	86.51	DRY	87.28	87.28	68-88
PZ-2	2	1041	Ø	84.06*	WL below screen	84.55	84.55	64-84
PZ-3	2	1131	Ø	89.08	89.15	89.15	89.15	69.8-89.8
PZ-4	2	1105	5.306	71.88	69.95	89.10	89.30	70-90
PZ-5	2				NM	-	NM	83-98
PZ-6	2				NM	-	NM	83-98
PZ-7	2				NM	-	NM	86-101
PZ-8	2				NM	-	NM	86-101
PZ-9	2	1215	Ø	84.75	85.95	89.95	89.75	70-90
OW-1a	4	1250	Ø	79.51*	WL below screen	82.58	82.65	62.5-77.5
OW-1b	4	1015	0.051	93.06	92.21	118.20	118.10	110-120
OW-2	4	1135	Ø	DRY	DRY	79.57	79.90	60-80
OW-3a	4	1055	Ø	79.40	81.80	82.20	82.30	63-83
OW-3b	4	1100	2.724	93.67	93.24	122.00	122.00	112-122
OW-4a	4				NM	-	NM	49.8-69.8
OW-4b	4				NM	-	NM	112-122.3
OW-5	4				NM	-	NM	30-50
OW-6	4				NM	-	NM	38-58
OW-7	4	1240	Ø	DRY	DRY	89.09	89.30	70.9-90.9
OW-8a	4	1115	Ø	DRY	DRY	79.00	79.05	60.4-80
OW-8b	4	1045	Ø	96.88	96.26	126.00	126.00	116-126
OW-9	4	1205	Ø	86.12	86.38	89.73	89.80	70-90
OW-10	4	1208	Ø	76.25	73.60	89.20	89.30	69.5-89.5
OW-11	4	1137	Ø	87.25	87.72	98.70	99.10	80-100
OW-12	4	1030	Ø	92.02	92.35	100.00	100.00	80-100

HM1  
 85.91  
 84.40  
 82.11  
 81.10  
 81.35

\*WL below screen

\*WL below screen

OW-13B	4	1225	78.29	96.71	95.52	140.05	140.15	128.5-140
DPE-3	4	1252	-	92.08	92.20	-	NM	40-100
DPE-4	4	1252	-	92.21	91.97	-	NM	40-100
DPE-5	4	1252	-	92.02	91.98	-	NM	40-100
DPE-8	4	1252	-	90.54	91.84	-	NM	40-100
DPE-9	4	1252	-	88.81	92.08	-	NM	40-100
VE-6D	4	-	-	-	NM	-	NM	40-100
DPE-7D	4	1252	-	90.81	92.69	-	NM	40-100
DPE-10D	4	1252	-	92.32	92.99	-	NM	40-100
DPE-11D	4				NM	-	NM	40-100
VE-12D	4				NM	-	NM	40-100
DPE-13D	4				NM	-	NM	40-100
VE-14D	4				NM	-	NM	40-100

HMI WL  
HMI WL  
HMI WL  
HMI WL  
HMI WL  
  
HMI WL  
HMI WL

**Omega Chemical Superfund Site**

2018 1st Semi-Annual OU-1 GWM Event SAP

Well ID	Manually Gauge	Gauge via Transducer Download	Sample	
			VOCs 8260B	1,4-Dioxane 8270M
DPE-3		X	X	X
DPE-4		X	X	X
DPE-5		X	X	X
DPE-7D		X	X	X
DPE-8		X	X	X
DPE-9		X	X	X
DPE-10D		X	X	X
EW-1	X		X	X
EW-2	X		X	X
EW-3	X		X	X
EW-4	X		X	X
EW-5	X		X	X
OW-1	X		X	X
OW-1b	X		X	X
OW-2	X		X	X
OW-3	X		X	X
OW-3b	X		X	X
OW-7	X		X	X
OW-8	X		X	X
OW-8b	X		X	X
OW-9	X		X	X
OW-10	X		X	X
OW-11	X		X	X
OW-12	X		X	X
OW-13b	X		X	X
PZ-1	X			
PZ-2	X			
PZ-3	X		X	X
PZ-4	X			
PZ-9	X		X	X

## Notes:

Do not collect samples from wells with static water levels below the bottom of the well screen  
VOC analysis by EPA Method 8260B shall include Acetone, Freon 11, Freon 12, and Freon 13

  Indicates work that is in addition to the scope of the 2010 GWTS OMM SAP

## **ATTACHMENT D**

**Laboratory Analytical Results  
and Data Verification Reports**

**Data Quality Assessment**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Second Quarter 2018**

Sampling Event	Sampling Rationale	Frequency of Analysis	Matrix	Lab WO#	Sampling Date	Field Quality Control Samples	Data Review Level	Review of Laboratory QC Samples	Data Usability
<b>SDLAC Quarterly Sampling</b>									
Q2	Quarterly sampling of the treatment plant effluent is required per Los Angeles County Sanitation District Industrial Waste Discharge Permit Number 20039.	Quarterly	Water	211591	5/18-19/2018	Equipment blanks are not needed as sampling equipment is not used. Trip blanks and field duplicates are not needed for this compliance sampling.	Stage 2A	MB, LCS/LCSD, MS/MSD, surrogates	Results for pH and dissolved Sulfide are qualified as estimated (J,UJ). These parameters are 'analyze immediately' parameters. Field measurements should be used. Results for 1,4-dioxane, 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, hexachlorocyclopentadiene, hexachloroethane, hexachlorobutadiene, 2-methylnaphthalene, 2-chloronaphthalene, 2-nitroaniline, diethyl phthalate, 2,6-dinitrotoluene, acenaphthylene, 3-nitroaniline, acenaphthene, dibenzofuran, 2,4-dinitrotoluene, dimethyl phthalate, fluorene, 4-chlorophenylphenyl ether, 4-nitroaniline and n-nitrosodiphenylamine in GRAB were qualified as estimated (J, UJ) due to unacceptable LCS/LCSD %Rs and RPDs and/or surrogate recoveries. The result for benzidine was rejected (R) due to LCSD %R less than 10%.
<b>GWTS Process Sampling</b>									
<i>SCAQMD Compliance</i>									
Q2	Sampling of the influent, intermediate, and effluent sample ports of the VPGAC vessels is required monthly for the SCAQMD permit.	Monthly	Air	1804310	4/11/2018	Equipment blanks are not needed as sampling equipment is not used to collect the vapor samples. Trip blanks are not typically submitted with Summa canisters. Field duplicates are not needed for this compliance sampling.	Stage 2A	MB, LCS/LCSD, surrogates	The TNMOC value reported should not be used as TVOC as it is not the sum of the reported concentrations. No other qualification of sample results was warranted.
				1805234	5/9/2018				The TNMOC value reported should not be used as TVOC as it is not the sum of the reported concentrations. No other qualification of sample results was warranted.
				1806185	6/5/2018				The TNMOC value reported should not be used as TVOC as it is not the sum of the reported concentrations. No other qualification of sample results was warranted.

**Data Quality Assessment**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Second Quarter 2018**

Sampling Event	Sampling Rationale	Frequency of Analysis	Matrix	Lab WO#	Sampling Date	Field Quality Control Samples	Data Review Level	Review of Laboratory QC Samples	Data Usability
<i>Treatment System Process Sampling</i>									
Q2	Analysis of the influent and effluent samples (before and after the air stripper) from the GWTS are needed to assess the performance of the treatment equipment.	Monthly (monthly for the first year of operation for the influent sample, frequency may change after 1st year); monthly for effluent sample.	Water	208678	4/11/2018	Equipment blanks are not needed as sampling equipment is not used to collect these samples from the sample ports. Field duplicates are not needed for this treatment assessment sampling. Trip blanks were analyzed with these samples and all trip blank results were nondetect.	Stage 2A	MB, LCS/LCSD, MS/MSD, surrogates	The result for 1,4-dioxane in OC_SP220B_EFF_041118 was qualified estimated (J-) due to unacceptable surrogate and LCS recoveries. The result may be biased low. No other data required qualification a result of the review effort.
				211014	5/9/2018				Results for Freon 12 in all samples and for 1,4-dioxane in OC_SP220B_EFF_050918 were qualified estimated (J-) due to unacceptable surrogate and/or LCS recoveries. The result may be biased low. No other qualification of sample results was warranted.
				212870	6/5/2018				Results for chloromethane and Freon 12 in all samples and for 1,4-dioxane in OC_SP220B_EFF_060518 were qualified estimated (J-, UJ) due to low surrogate and/or low LCS recoveries. Results may be biased low. Results for IPA were qualified as estimated (J, UJ) because no LCS analysis was performed to verify the laboratory could acceptably recover the analyte. No other qualification of sample results was warranted.

4/23/2018  
Ms. Jaime Dinello  
DeMaximis, Inc  
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega-GWCS Monthly GAC  
Project #:  
Workorder #: 1804310

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 4/16/2018 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner  
Project Manager

**A Eurofins Lancaster Laboratories Company**

**WORK ORDER #:** 1804310

## Work Order Summary

**CLIENT:** Ms. Jaime Dinello  
 DeMaximis, Inc  
 1340 Reynolds Ave, Suite 105  
 Irvine, CA 92614

**BILL TO:** Mr. Tom Dorsey  
 Omega Chemical Site Environmental  
 Remediation Trust  
 1322 Scott St.  
 Suite 104

**PHONE:** 949.679.9290

**P.O. #**

**FAX:** 949.679.9078

**PROJECT #** Omega-GWCS Monthly GAC

**DATE RECEIVED:** 04/16/2018

**CONTACT:** Kelly Buettner

**DATE COMPLETED:** 04/23/2018

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	OC_VGAC_EFF_SP242_041118	TO-15	3.3 "Hg	15.6 psi
02A	OC_VGAC_INT_SP245_041118	TO-15	5.3 "Hg	14.9 psi
03A	OC_VGAC_INF_SP241_041118	TO-15	2.2 "Hg	15.1 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY:

DATE: 04/23/18

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE  
EPA Method TO-15  
DeMaximis, Inc  
Workorder# 1804310**

Three 1 Liter Summa Canister samples were received on April 16, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

#### **Receiving Notes**

A revised Chain of Custody (COC) was provided by the client on 04/17/18.

#### **Analytical Notes**

The TNMOC concentration was calculated by taking the total area counts in the sample and quantitating the area based on the response factor of Heptane.

#### **Definition of Data Qualifying Flags**

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

## Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: OC\_VGAC\_EFF\_SP242\_041118**

**Lab ID#: 1804310-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	7.5	6.5	42
Freon 113	1.2	18	8.9	140
1,1-Dichloroethene	1.2	18	4.6	72
2-Butanone (Methyl Ethyl Ketone)	4.6	4.6 J	14	13 J
Chloroform	1.2	5.0	5.7	24
TNMOC ref. to Heptane (MW=100)	23	92	95	380

**Client Sample ID: OC\_VGAC\_INT\_SP245\_041118**

**Lab ID#: 1804310-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	8.9	6.8	50
Freon 113	1.2	20	9.4	150
1,1-Dichloroethene	1.2	23	4.8	91
Chloroform	1.2	6.4	6.0	31
1,2-Dichloroethane	1.2	1.5	4.9	5.9
TNMOC ref. to Heptane (MW=100)	24	92	100	380

**Client Sample ID: OC\_VGAC\_INF\_SP241\_041118**

**Lab ID#: 1804310-03A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.1	8.2	6.2	46
Freon 113	1.1	23	8.4	180
1,1-Dichloroethene	1.1	24	4.3	97
Chloroform	1.1	6.7	5.3	32
1,2-Dichloroethane	1.1	1.7	4.4	7.0
Trichloroethene	1.1	13	5.9	71
Tetrachloroethene	1.1	90	7.4	610
TNMOC ref. to Heptane (MW=100)	22	310	90	1300



Air Toxics

Client Sample ID: OC\_VGAC\_EFF\_SP242\_041118

Lab ID#: 1804310-01A

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>17041815</b>	<b>Date of Collection: 4/11/18 11:00:00 AM</b>		
<b>Dil. Factor:</b>	<b>2.32</b>	<b>Date of Analysis: 4/18/18 08:20 PM</b>		
<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 12	1.2	Not Detected	5.7	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
Freon 11	1.2	7.5	6.5	42
Freon 113	1.2	18	8.9	140
1,1-Dichloroethene	1.2	18	4.6	72
2-Propanol	4.6	Not Detected	11	Not Detected
Carbon Disulfide	4.6	Not Detected	14	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
Hexane	1.2	Not Detected	4.1	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.6	4.6 J	14	13 J
Chloroform	1.2	5.0	5.7	24
1,1,1-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	Not Detected	6.2	Not Detected
1,4-Dioxane	4.6	Not Detected	17	Not Detected
Toluene	1.2	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Tetrachloroethene	1.2	Not Detected	7.9	Not Detected
o-Xylene	1.2	Not Detected	5.0	Not Detected
TNMOC ref. to Heptane (MW=100)	23	92	95	380

J = Estimated value.

**Container Type: 1 Liter Summa Canister**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: OC\_VGAC\_INT\_SP245\_041118

Lab ID#: 1804310-02A

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>17041816</b>	<b>Date of Collection:</b> 4/11/18 11:01:00 AM		
<b>Dil. Factor:</b>	<b>2.44</b>	<b>Date of Analysis:</b> 4/18/18 08:49 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.0	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
Freon 11	1.2	8.9	6.8	50
Freon 113	1.2	20	9.4	150
1,1-Dichloroethene	1.2	23	4.8	91
2-Propanol	4.9	Not Detected	12	Not Detected
Carbon Disulfide	4.9	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	42	Not Detected
Hexane	1.2	Not Detected	4.3	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.9	Not Detected	14	Not Detected
Chloroform	1.2	6.4	6.0	31
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.7	Not Detected
Benzene	1.2	Not Detected	3.9	Not Detected
1,2-Dichloroethane	1.2	1.5	4.9	5.9
Trichloroethene	1.2	Not Detected	6.6	Not Detected
1,4-Dioxane	4.9	Not Detected	18	Not Detected
Toluene	1.2	Not Detected	4.6	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	Not Detected	8.3	Not Detected
o-Xylene	1.2	Not Detected	5.3	Not Detected
TNMOC ref. to Heptane (MW=100)	24	92	100	380

**Container Type: 1 Liter Summa Canister**

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: OC\_VGAC\_INF\_SP241\_041118

Lab ID#: 1804310-03A

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>17041817</b>	<b>Date of Collection:</b>	<b>4/11/18 11:03:00 AM</b>	
<b>Dil. Factor:</b>	<b>2.19</b>	<b>Date of Analysis:</b>	<b>4/18/18 09:17 PM</b>	
<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 12	1.1	Not Detected	5.4	Not Detected
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
Freon 11	1.1	8.2	6.2	46
Freon 113	1.1	23	8.4	180
1,1-Dichloroethene	1.1	24	4.3	97
2-Propanol	4.4	Not Detected	11	Not Detected
Carbon Disulfide	4.4	Not Detected	14	Not Detected
Methylene Chloride	11	Not Detected	38	Not Detected
Hexane	1.1	Not Detected	3.8	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.4	Not Detected	13	Not Detected
Chloroform	1.1	6.7	5.3	32
1,1,1-Trichloroethane	1.1	Not Detected	6.0	Not Detected
Carbon Tetrachloride	1.1	Not Detected	6.9	Not Detected
Benzene	1.1	Not Detected	3.5	Not Detected
1,2-Dichloroethane	1.1	1.7	4.4	7.0
Trichloroethene	1.1	13	5.9	71
1,4-Dioxane	4.4	Not Detected	16	Not Detected
Toluene	1.1	Not Detected	4.1	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.0	Not Detected
Tetrachloroethene	1.1	90	7.4	610
o-Xylene	1.1	Not Detected	4.8	Not Detected
TNMOC ref. to Heptane (MW=100)	22	310	90	1300

**Container Type: 1 Liter Summa Canister**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1804310-04A

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>17041806</b>	<b>Date of Collection: NA</b>		
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 4/18/18 02:30 PM</b>		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
TNMOC ref. to Heptane (MW=100)	10	Not Detected	41	Not Detected

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1804310-05A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17041802	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/18/18 12:29 PM

Compound	%Recovery
Freon 12	102
Vinyl Chloride	101
Freon 11	100
Freon 113	98
1,1-Dichloroethene	102
2-Propanol	96
Carbon Disulfide	100
Methylene Chloride	100
Hexane	97
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	101
Chloroform	105
1,1,1-Trichloroethane	101
Carbon Tetrachloride	100
Benzene	104
1,2-Dichloroethane	108
Trichloroethene	106
1,4-Dioxane	107
Toluene	106
1,1,2-Trichloroethane	107
Tetrachloroethene	105
o-Xylene	106
TNMOC ref. to Heptane (MW=100)	100

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1804310-06A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17041803	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/18/18 12:55 PM
Compound	%Recovery	Method	Limits
Freon 12	104	70-130	
Vinyl Chloride	105	70-130	
Freon 11	102	70-130	
Freon 113	98	70-130	
1,1-Dichloroethene	103	70-130	
2-Propanol	99	70-130	
Carbon Disulfide	105	70-130	
Methylene Chloride	103	70-130	
Hexane	102	70-130	
1,1-Dichloroethane	104	70-130	
2-Butanone (Methyl Ethyl Ketone)	106	70-130	
Chloroform	108	70-130	
1,1,1-Trichloroethane	103	70-130	
Carbon Tetrachloride	101	70-130	
Benzene	103	70-130	
1,2-Dichloroethane	107	70-130	
Trichloroethene	109	70-130	
1,4-Dioxane	103	70-130	
Toluene	106	70-130	
1,1,2-Trichloroethane	107	70-130	
Tetrachloroethene	104	70-130	
o-Xylene	106	70-130	
TNMOC ref. to Heptane (MW=100)	Not Spiked		

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method	Limits
Toluene-d8	104	70-130	
1,2-Dichloroethane-d4	99	70-130	
4-Bromofluorobenzene	100	70-130	



Air Toxics

Client Sample ID: LCSD

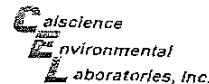
Lab ID#: 1804310-06AA

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17041804	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/18/18 01:21 PM
Compound	%Recovery	Method	Limits
Freon 12	103	70-130	
Vinyl Chloride	104	70-130	
Freon 11	102	70-130	
Freon 113	97	70-130	
1,1-Dichloroethene	105	70-130	
2-Propanol	100	70-130	
Carbon Disulfide	104	70-130	
Methylene Chloride	102	70-130	
Hexane	103	70-130	
1,1-Dichloroethane	105	70-130	
2-Butanone (Methyl Ethyl Ketone)	107	70-130	
Chloroform	109	70-130	
1,1,1-Trichloroethane	104	70-130	
Carbon Tetrachloride	101	70-130	
Benzene	102	70-130	
1,2-Dichloroethane	108	70-130	
Trichloroethene	108	70-130	
1,4-Dioxane	102	70-130	
Toluene	105	70-130	
1,1,2-Trichloroethane	108	70-130	
Tetrachloroethene	105	70-130	
o-Xylene	106	70-130	
TNMOC ref. to Heptane (MW=100)	Not Spiked		

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method	Limits
Toluene-d8	102	70-130	
1,2-Dichloroethane-d4	98	70-130	
4-Bromofluorobenzene	100	70-130	



7440 LINCOLN WAY  
GARDEN GROVE, CA 92841-1427  
TEL: (714) 895-5494 . FAX: (714) 894-7501

### AIR CHAIN OF CUSTODY RECORD

DATE: 4/11/2018

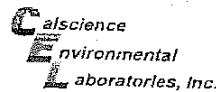
PAGE: 1 OF 1

LABORATORY CLIENT de maximis		CLIENT PROJECT NAME / NUMBER: Omega - GWCS Monthly GAC		P.O. NO.							
ADDRESS: 1322 Scott St., Suite 104		PROJECT ADDRESS: 12520 Whittier Blvd.		LAB CONTACT OR QUOTE NO.							
CITY: San Diego	STATE: CA	ZIP: 92106	CITY: Whittier	STATE: CA	ZIP: 90602						
TEL: (562) 756-8149	EMAIL: jdinello@demaximis.com	PROJECT CONTACT: Trent Henderson thenderson@scobandhefner.com		USE ONLY <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>							
TURNAROUND TIME: <input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS		SAMPLER(S) NAME / SIGNATURE: Khalid Ather		REQUESTED ANALYSES							
SPECIAL REQUESTS / COMMENTS (ADDITIONAL COSTS MAY APPLY) <input checked="" type="checkbox"/> EDD											
SPECIAL INSTRUCTIONS											
LAB USE ONLY	SAMPLE ID	FIELD ID / Point of Collection	Air Type:		Sampling Equipment Info:		Start Sampling Information:		Stop Sampling Information:		TGS (Total 25)
			<input type="checkbox"/> Indoor	<input type="checkbox"/> Sol Vap	Canister ID#	Canister Size 6L or 1L	Flow Controller ID#	Date	Time (24hr clock)	Canister Pressure (mbar)	
1	OC_VGAC_EFF_SP242_04 11 18	SP-EFF-GAC	Vapor	122473	1L	-	4/11/2018	1055 -30	4/11/2018	1100 -5	X
2	OC_VGAC_INT_SP245_04 11 18	SP-MID-GAC	Vapor	122458	1L	23496	4/11/2018	1054 -28	4/11/2018	1101 -5	
3	OC_VGAC_INF_SP241_04 11 18	SP-INF-GAC	Vapor	123127	1L	23233	4/11/2018	1057 -30	4/11/2018	1103 -5	X
4											
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11											
12											
13											
14											
15											
Reinquainted by: (Signature) 			Received by: (Signature) 								
Relinquished by: (Signature)			Received by: (Signature) 								Date: 4/16/18 Time: 10:00
Relinquished by: (Signature)			Received by: (Signature)								Date: Time:

1804310

REVISED COC 4/17/18

Custom Seal intact?  
Y N Temp: 11/18



7440 LINCOLN WAY  
GARDEN GROVE, CA 92841-1427  
TEL: (714) 895-5494 . FAX: (714) 884-7501

### AIR CHAIN OF CUSTODY RECORD

DATE: 4/11/2018

PAGE: 1 OF 1

LABORATORY CLIENT de maximis			CLIENT PROJECT NAME / NUMBER: Omega - GWCS Monthly GAC			P.D. NO.		
ADDRESS: 1322 Scott St., Suite 104			PROJECT ADDRESS: 12520 Whittier Blvd.			LAB CONTACT OR QUOTE NO.		
CITY: San Diego STATE: CA ZIP: 92106			CITY: Whittier STATE: CA ZIP: 90602			LAB USE ONLY		
(562) 756-8149		EMAIL: jdinello@demaximis.com	PROJECT CONTACT: Trent Henderson thenderson@jacobandwhitier.com					
TURNAROUND TIME:			SAMPLER(S) (NAME / SIGNATURE): <i>Khalid Azhar</i>			REQUESTED ANALYSES		
<input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 8 DAYS <input type="checkbox"/> 10 DAYS <small>SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)</small> <input checked="" type="checkbox"/> EDD								
SPECIAL INSTRUCTIONS:								

LAB USE ONLY	SAMPLE ID	FIELD ID / Point of Collection	Air Type		Sampling Equipment Info		Start Sampling Information			Stop Sampling Information			TO-15 (TAL 2.3)
			(I) Indoor (SV) Sol Vap.	(A) Ambient	Canister ID#	Canister Size 6L or 1L	Flow Controller ID#	Date	Time (24hr clock)	Canister Pressure (Hg)	Date	Time (24hr clock)	
014	OC_VGAC_EFF_SP242_04 11 18	SP-EFF-GAC	Vapor		12793	1L	-	4/11/2018	1055	-30	4/11/2018	1100	-5
021	OC_VGAC_INT_SP245_04 11 18	SP-MID-GAC	Vapor		12548	1L	23496	4/11/2018	1056	-28	4/11/2018	1101	-5
031	OC_VGAC_INF_SP241_04 11 18	SP-INF GAC	Vapor		13127	1L	23233	4/11/2018	1057	-30	4/11/2018	1103	-5
4													x
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6													
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11													
12													
13													
14													
15													
Relinquished by: (Signature) <i>[Signature]</i>			Received by: (Signature) <i>Trent N. Henderson</i>			Date: 4/11/18 Time: 10:00			Date: 4/11/18 Time: 10:00				
Relinquished by: (Signature)			Received by: (Signature)			Date: Time:			Date: Time:				
Relinquished by: (Signature)			Received by: (Signature)			Date: Time:			Date: Time:				

1804310

FedEx  
Seal intact?  
Y  
Temp: 11/18

5/21/2018  
Ms. Jaime Dinello  
DeMaximis, Inc  
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega-GWCS Monthly GAC  
Project #:  
Workorder #: 1805234

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 5/14/2018 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner  
Project Manager

**A Eurofins Lancaster Laboratories Company**

**WORK ORDER #:** 1805234

## Work Order Summary

**CLIENT:** Ms. Jaime Dinello  
DeMaximis, Inc  
1340 Reynolds Ave, Suite 105  
Irvine, CA 92614

**BILL TO:** Mr. Tom Dorsey  
Omega Chemical Site Environmental  
Remediation Trust  
1322 Scott St.  
Suite 104

**PHONE:** 949.679.9290

**P.O. #**

**FAX:** 949.679.9078

**PROJECT #** Omega-GWCS Monthly GAC

**DATE RECEIVED:** 05/14/2018

**CONTACT:** Kelly Buettner

**DATE COMPLETED:** 05/21/2018

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	OC_VGAC_EFF_SP242_050918	TO-15	4.1 "Hg	14.3 psi
02A	OC_VGAC_INT_SP245_050918	TO-15	3.1 "Hg	14.6 psi
03A	OC_VGAC_INF_SP241_050918	TO-15	4.3 "Hg	15 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY:

DATE: 05/21/18

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE  
EPA Method TO-15  
DeMaximis, Inc  
Workorder# 1805234**

Three 1 Liter Summa Canister samples were received on May 14, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

The TNMOC concentration was calculated by taking the total area counts in the sample and quantitating the area based on the response factor of TNMOC ref. to Heptane (MW=100).

#### **Definition of Data Qualifying Flags**

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds  
EPA METHOD TO-15 GC/MS FULL SCAN**

**Client Sample ID: OC\_VGAC\_EFF\_SP242\_050918**

**Lab ID#: 1805234-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.1	7.2	6.4	40
Freon 113	1.1	18	8.7	140
1,1-Dichloroethene	1.1	14	4.5	56
Chloroform	1.1	4.5	5.6	22
TNMOC ref. to Heptane (MW=100)	23	54	93	220

**Client Sample ID: OC\_VGAC\_INT\_SP245\_050918**

**Lab ID#: 1805234-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.1	7.8	6.2	44
Freon 113	1.1	20	8.5	150
1,1-Dichloroethene	1.1	19	4.4	75
Chloroform	1.1	6.0	5.4	29
1,2-Dichloroethane	1.1	1.3	4.5	5.3
TNMOC ref. to Heptane (MW=100)	22	42	91	170

**Client Sample ID: OC\_VGAC\_INF\_SP241\_050918**

**Lab ID#: 1805234-03A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	7.9	6.6	44
Freon 113	1.2	23	9.0	180
1,1-Dichloroethene	1.2	21	4.7	84
Chloroform	1.2	5.8	5.8	28
1,2-Dichloroethane	1.2	1.4	4.8	5.7
Trichloroethene	1.2	12	6.3	63
Tetrachloroethene	1.2	88	8.0	600
TNMOC ref. to Heptane (MW=100)	24	190	96	780



Air Toxics

Client Sample ID: OC\_VGAC\_EFF\_SP242\_050918

Lab ID#: 1805234-01A

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>17051521</b>	<b>Date of Collection: 5/9/18 10:00:00 AM</b>		
<b>Dil. Factor:</b>	<b>2.28</b>	<b>Date of Analysis: 5/16/18 12:59 AM</b>		
<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 12	1.1	Not Detected	5.6	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
Freon 11	1.1	7.2	6.4	40
Freon 113	1.1	18	8.7	140
1,1-Dichloroethene	1.1	14	4.5	56
2-Propanol	4.6	Not Detected	11	Not Detected
Carbon Disulfide	4.6	Not Detected	14	Not Detected
Methylene Chloride	11	Not Detected	40	Not Detected
Hexane	1.1	Not Detected	4.0	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	13	Not Detected
Chloroform	1.1	4.5	5.6	22
1,1,1-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Carbon Tetrachloride	1.1	Not Detected	7.2	Not Detected
Benzene	1.1	Not Detected	3.6	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.6	Not Detected
Trichloroethene	1.1	Not Detected	6.1	Not Detected
1,4-Dioxane	4.6	Not Detected	16	Not Detected
Toluene	1.1	Not Detected	4.3	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Tetrachloroethene	1.1	Not Detected	7.7	Not Detected
o-Xylene	1.1	Not Detected	5.0	Not Detected
TNMOC ref. to Heptane (MW=100)	23	54	93	220

**Container Type: 1 Liter Summa Canister**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: OC\_VGAC\_INT\_SP245\_050918

Lab ID#: 1805234-02A

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>17051522</b>	<b>Date of Collection: 5/9/18 10:02:00 AM</b>		
<b>Dil. Factor:</b>	<b>2.22</b>	<b>Date of Analysis: 5/16/18 01:27 AM</b>		
<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 12	1.1	Not Detected	5.5	Not Detected
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
Freon 11	1.1	7.8	6.2	44
Freon 113	1.1	20	8.5	150
1,1-Dichloroethene	1.1	19	4.4	75
2-Propanol	4.4	Not Detected	11	Not Detected
Carbon Disulfide	4.4	Not Detected	14	Not Detected
Methylene Chloride	11	Not Detected	38	Not Detected
Hexane	1.1	Not Detected	3.9	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.4	Not Detected	13	Not Detected
Chloroform	1.1	6.0	5.4	29
1,1,1-Trichloroethane	1.1	Not Detected	6.0	Not Detected
Carbon Tetrachloride	1.1	Not Detected	7.0	Not Detected
Benzene	1.1	Not Detected	3.5	Not Detected
1,2-Dichloroethane	1.1	1.3	4.5	5.3
Trichloroethene	1.1	Not Detected	6.0	Not Detected
1,4-Dioxane	4.4	Not Detected	16	Not Detected
Toluene	1.1	Not Detected	4.2	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.0	Not Detected
Tetrachloroethene	1.1	Not Detected	7.5	Not Detected
o-Xylene	1.1	Not Detected	4.8	Not Detected
TNMOC ref. to Heptane (MW=100)	22	42	91	170

**Container Type: 1 Liter Summa Canister**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: OC\_VGAC\_INF\_SP241\_050918

Lab ID#: 1805234-03A

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>17051523</b>	<b>Date of Collection: 5/9/18 10:04:00 AM</b>		
<b>Dil. Factor:</b>	<b>2.36</b>	<b>Date of Analysis: 5/16/18 01:55 AM</b>		
<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 12	1.2	Not Detected	5.8	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
Freon 11	1.2	7.9	6.6	44
Freon 113	1.2	23	9.0	180
1,1-Dichloroethene	1.2	21	4.7	84
2-Propanol	4.7	Not Detected	12	Not Detected
Carbon Disulfide	4.7	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	41	Not Detected
Hexane	1.2	Not Detected	4.2	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
Chloroform	1.2	5.8	5.8	28
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.4	Not Detected
Benzene	1.2	Not Detected	3.8	Not Detected
1,2-Dichloroethane	1.2	1.4	4.8	5.7
Trichloroethene	1.2	12	6.3	63
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Toluene	1.2	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	88	8.0	600
o-Xylene	1.2	Not Detected	5.1	Not Detected
TNMOC ref. to Heptane (MW=100)	24	190	96	780

**Container Type: 1 Liter Summa Canister**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

## Client Sample ID: Lab Blank

Lab ID#: 1805234-04A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051511	Date of Collection: NA		
Dil. Factor:	1.00	Date of Analysis: 5/15/18 05:28 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
TNMOC ref. to Heptane (MW=100)	10	Not Detected	41	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1805234-05A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17051508	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/15/18 03:29 PM

Compound	%Recovery
Freon 12	93
Vinyl Chloride	85
Freon 11	104
Freon 113	103
1,1-Dichloroethene	96
2-Propanol	78
Carbon Disulfide	90
Methylene Chloride	87
Hexane	84
1,1-Dichloroethane	94
2-Butanone (Methyl Ethyl Ketone)	94
Chloroform	107
1,1,1-Trichloroethane	104
Carbon Tetrachloride	108
Benzene	99
1,2-Dichloroethane	106
Trichloroethene	107
1,4-Dioxane	102
Toluene	105
1,1,2-Trichloroethane	103
Tetrachloroethene	112
o-Xylene	106
TNMOC ref. to Heptane (MW=100)	100

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1805234-06A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17051509	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/15/18 03:57 PM
Compound	%Recovery	Method	Limits
Freon 12	94	70-130	
Vinyl Chloride	87	70-130	
Freon 11	104	70-130	
Freon 113	103	70-130	
1,1-Dichloroethene	97	70-130	
2-Propanol	80	70-130	
Carbon Disulfide	93	70-130	
Methylene Chloride	85	70-130	
Hexane	88	70-130	
1,1-Dichloroethane	92	70-130	
2-Butanone (Methyl Ethyl Ketone)	98	70-130	
Chloroform	107	70-130	
1,1,1-Trichloroethane	106	70-130	
Carbon Tetrachloride	109	70-130	
Benzene	100	70-130	
1,2-Dichloroethane	106	70-130	
Trichloroethene	113	70-130	
1,4-Dioxane	92	70-130	
Toluene	107	70-130	
1,1,2-Trichloroethane	107	70-130	
Tetrachloroethene	115	70-130	
o-Xylene	109	70-130	
TNMOC ref. to Heptane (MW=100)	Not Spiked		

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method	Limits
Toluene-d8	103	70-130	
1,2-Dichloroethane-d4	95	70-130	
4-Bromofluorobenzene	108	70-130	



Air Toxics

Client Sample ID: LCSD

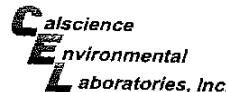
Lab ID#: 1805234-06AA

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17051510	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/15/18 04:26 PM
Compound	%Recovery	Method	Limits
Freon 12	91	70-130	
Vinyl Chloride	86	70-130	
Freon 11	103	70-130	
Freon 113	102	70-130	
1,1-Dichloroethene	96	70-130	
2-Propanol	78	70-130	
Carbon Disulfide	91	70-130	
Methylene Chloride	85	70-130	
Hexane	86	70-130	
1,1-Dichloroethane	93	70-130	
2-Butanone (Methyl Ethyl Ketone)	96	70-130	
Chloroform	106	70-130	
1,1,1-Trichloroethane	105	70-130	
Carbon Tetrachloride	108	70-130	
Benzene	99	70-130	
1,2-Dichloroethane	104	70-130	
Trichloroethene	111	70-130	
1,4-Dioxane	91	70-130	
Toluene	107	70-130	
1,1,2-Trichloroethane	107	70-130	
Tetrachloroethene	114	70-130	
o-Xylene	110	70-130	
TNMOC ref. to Heptane (MW=100)	Not Spiked		

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method	Limits
Toluene-d8	102	70-130	
1,2-Dichloroethane-d4	92	70-130	
4-Bromofluorobenzene	106	70-130	



7440 LINCOLN WAY  
GARDEN GROVE, CA 92841-1427  
TEL: (714) 895-5494 . FAX: (714) 894-7501

### AIR CHAIN OF CUSTODY RECORD

DATE: 05/09/18

PAGE: 1 OF 1

LABORATORY CLIENT: de maximis		CLIENT PROJECT NAME / NUMBER: Omega - GWCS Monthly GAC		P.O. NO.:	
ADDRESS: 1322 Scott St., Suite 104		PROJECT ADDRESS: 12520 Whittier Blvd.		LAB CONTACT OR QUOTE NO.:	
city: San Diego	STATE: CA	ZIP: 92106	CITY: Whittier	STATE: CA	ZIP: 90802
TEL: (562) 758-8149	EMAIL: ldinello@demaximis.com	PROJECT CONTACT: Trent Henderson thenderson@jacobandhefner.com		LAB USE ONLY: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
TURNAROUND TIME: <input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS		SAMPLER(S): (NAME / SIGNATURE) Khalid Achar		REQUESTED ANALYSES	
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY) <input checked="" type="checkbox"/> EDD					
SPECIAL INSTRUCTIONS:					

LAB USE ONLY	SAMPLE ID	FIELD ID / Point of Collection	Air Type	Sampling Equipment Info		Start Sampling Information			Stop Sampling Information			TO-15 (TAL 2)
			(I) Indoor (SV) Soil Vap. (A) Ambient	Canister ID#	Canister Size 6L or 1L	Flow Controller ID#	Date	Time (24hr clock)	Canister Pressure (^Hg)	Date	Time (24hr clock)	
1	OC_VGAC_EFF_SP242_050918	SP-EFF-GAC	Vapor	1L2434	1L	23326	5/9/2018	0955	-30	5/9/2018	1000	-4
2	OC_VGAC_INT_SP245_050918	SP-MID-GAC	Vapor	1L1691	1L	23239	5/9/2018	0957	-29	5/9/2018	1002	-4
3	OC_VGAC_INF_SP241_050918	SP-INF-GAC	Vapor	1L3122	1L	23321	5/9/2018	0959	-29	5/9/2018	1004	-5
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
Relinquished by: (Signature)			Received by: (Signature)			Date: 5/14/18 Time: 09:50			Date: Time:			
Relinquished by: (Signature)			Received by: (Signature)			Date: Time:			Date: Time:			
Relinquished by: (Signature)			Received by: (Signature)			Date: Time:			Date: Time:			

*Field  
Custody Seal intact?  
None Temp. N/A*

1805234

6/18/2018  
Ms. Jaime Dinello  
DeMaximis, Inc  
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega -GWCS Monthly GAC  
Project #: Omega -GWCS Monthly GAC  
Workorder #: 1806185

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 6/11/2018 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner  
Project Manager

**A Eurofins Lancaster Laboratories Company**

**WORK ORDER #:** 1806185

## Work Order Summary

<b>CLIENT:</b>	Ms. Jaime Dinello DeMaximis, Inc 1340 Reynolds Ave, Suite 105 Irvine, CA 92614	<b>BILL TO:</b>	Mr. Tom Dorsey Omega Chemical Site Environmental Remediation Trust 1322 Scott St. Suite 104
<b>PHONE:</b>	949.679.9290	<b>P.O. #</b>	
<b>FAX:</b>	949.679.9078	<b>PROJECT #</b>	Omega -GWCS Monthly GAC Omega
<b>DATE RECEIVED:</b>	06/11/2018	<b>CONTACT:</b>	-GWCS Monthly GAC Kelly Buettner
<b>DATE COMPLETED:</b>	06/18/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	OC_VGAC_EFF_SP242_060518	TO-15	3.3 "Hg	14.9 psi
02A	OC_VGAC_INT_SP245_060518	TO-15	3.5 "Hg	15 psi
03A	OC_VGAC_INF_SP241_060518	TO-15	3.9 "Hg	15 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY:

DATE: 06/18/18

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE  
EPA Method TO-15  
DeMaximis, Inc  
Workorder# 1806185**

Three 1 Liter Summa Canister samples were received on June 11, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

The TNMOC concentration was calculated by taking the total area counts in the sample and quantitating the area based on the response factor of TNMOC ref. to Heptane (MW=100).

#### **Definition of Data Qualifying Flags**

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

## Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: OC\_VGAC\_EFF\_SP242\_060518**

**Lab ID#: 1806185-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.1	8.1	6.3	45
Freon 113	1.1	21	8.7	160
1,1-Dichloroethene	1.1	17	4.5	69
Chloroform	1.1	4.4	5.5	21
TNMOC ref. to Heptane (MW=100)	23	68	92	280

**Client Sample ID: OC\_VGAC\_INT\_SP245\_060518**

**Lab ID#: 1806185-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.1	8.4	6.4	47
Freon 113	1.1	23	8.8	180
1,1-Dichloroethene	1.1	23	4.5	90
Chloroform	1.1	6.5	5.6	32
1,2-Dichloroethane	1.1	1.6	4.6	6.7
TNMOC ref. to Heptane (MW=100)	23	46	94	190

**Client Sample ID: OC\_VGAC\_INF\_SP241\_060518**

**Lab ID#: 1806185-03A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	7.4	6.5	42
Freon 113	1.2	23	8.9	180
1,1-Dichloroethene	1.2	20	4.6	81
Chloroform	1.2	5.6	5.7	27
1,2-Dichloroethane	1.2	1.5	4.7	6.1
Trichloroethene	1.2	11	6.2	61
Tetrachloroethene	1.2	86	7.9	580
TNMOC ref. to Heptane (MW=100)	23	180	95	740



Air Toxics

Client Sample ID: OC\_VGAC\_EFF\_SP242\_060518

Lab ID#: 1806185-01A

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>p061223</b>	<b>Date of Collection: 6/5/18 10:55:00 AM</b>		
<b>Dil. Factor:</b>	<b>2.26</b>	<b>Date of Analysis: 6/12/18 10:57 PM</b>		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	Not Detected	5.6	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
Freon 11	1.1	8.1	6.3	45
Freon 113	1.1	21	8.7	160
1,1-Dichloroethene	1.1	17	4.5	69
2-Propanol	4.5	Not Detected	11	Not Detected
Carbon Disulfide	4.5	Not Detected	14	Not Detected
Methylene Chloride	11	Not Detected	39	Not Detected
Hexane	1.1	Not Detected	4.0	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.5	Not Detected	13	Not Detected
Chloroform	1.1	4.4	5.5	21
1,1,1-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Carbon Tetrachloride	1.1	Not Detected	7.1	Not Detected
Benzene	1.1	Not Detected	3.6	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.6	Not Detected
Trichloroethene	1.1	Not Detected	6.1	Not Detected
1,4-Dioxane	4.5	Not Detected	16	Not Detected
Toluene	1.1	Not Detected	4.2	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Tetrachloroethene	1.1	Not Detected	7.7	Not Detected
o-Xylene	1.1	Not Detected	4.9	Not Detected
TNMOC ref. to Heptane (MW=100)	23	68	92	280

**Container Type: 1 Liter Summa Canister**

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	89	70-130



Air Toxics

Client Sample ID: OC\_VGAC\_INT\_SP245\_060518

Lab ID#: 1806185-02A

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>p061224</b>	<b>Date of Collection: 6/5/18 10:57:00 AM</b>		
<b>Dil. Factor:</b>	<b>2.29</b>	<b>Date of Analysis: 6/12/18 11:23 PM</b>		
<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 12	1.1	Not Detected	5.7	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
Freon 11	1.1	8.4	6.4	47
Freon 113	1.1	23	8.8	180
1,1-Dichloroethene	1.1	23	4.5	90
2-Propanol	4.6	Not Detected	11	Not Detected
Carbon Disulfide	4.6	Not Detected	14	Not Detected
Methylene Chloride	11	Not Detected	40	Not Detected
Hexane	1.1	Not Detected	4.0	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	14	Not Detected
Chloroform	1.1	6.5	5.6	32
1,1,1-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Carbon Tetrachloride	1.1	Not Detected	7.2	Not Detected
Benzene	1.1	Not Detected	3.6	Not Detected
1,2-Dichloroethane	1.1	1.6	4.6	6.7
Trichloroethene	1.1	Not Detected	6.2	Not Detected
1,4-Dioxane	4.6	Not Detected	16	Not Detected
Toluene	1.1	Not Detected	4.3	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Tetrachloroethene	1.1	Not Detected	7.8	Not Detected
o-Xylene	1.1	Not Detected	5.0	Not Detected
TNMOC ref. to Heptane (MW=100)	23	46	94	190

**Container Type: 1 Liter Summa Canister**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	88	70-130



Air Toxics

Client Sample ID: OC\_VGAC\_INF\_SP241\_060518

Lab ID#: 1806185-03A

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>p061225</b>	<b>Date of Collection:</b>	<b>6/5/18 10:59:00 AM</b>	
<b>Dil. Factor:</b>	<b>2.32</b>	<b>Date of Analysis:</b>	<b>6/12/18 11:50 PM</b>	
<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 12	1.2	Not Detected	5.7	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
Freon 11	1.2	7.4	6.5	42
Freon 113	1.2	23	8.9	180
1,1-Dichloroethene	1.2	20	4.6	81
2-Propanol	4.6	Not Detected	11	Not Detected
Carbon Disulfide	4.6	Not Detected	14	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
Hexane	1.2	Not Detected	4.1	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	14	Not Detected
Chloroform	1.2	5.6	5.7	27
1,1,1-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	1.5	4.7	6.1
Trichloroethene	1.2	11	6.2	61
1,4-Dioxane	4.6	Not Detected	17	Not Detected
Toluene	1.2	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Tetrachloroethene	1.2	86	7.9	580
o-Xylene	1.2	Not Detected	5.0	Not Detected
TNMOC ref. to Heptane (MW=100)	23	180	95	740

**Container Type: 1 Liter Summa Canister**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	89	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1806185-04A

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>p061208</b>	<b>Date of Collection: NA</b>		
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 6/12/18 02:03 PM</b>		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
TNMOC ref. to Heptane (MW=100)	10	Not Detected	41	Not Detected

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	90	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1806185-05A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	p061202	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/12/18 09:57 AM

Compound	%Recovery
Freon 12	106
Vinyl Chloride	120
Freon 11	105
Freon 113	104
1,1-Dichloroethene	104
2-Propanol	95
Carbon Disulfide	97
Methylene Chloride	97
Hexane	105
1,1-Dichloroethane	103
2-Butanone (Methyl Ethyl Ketone)	107
Chloroform	106
1,1,1-Trichloroethane	102
Carbon Tetrachloride	114
Benzene	111
1,2-Dichloroethane	104
Trichloroethene	103
1,4-Dioxane	111
Toluene	110
1,1,2-Trichloroethane	106
Tetrachloroethene	111
o-Xylene	122
TNMOC ref. to Heptane (MW=100)	100

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1806185-06A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	p061203	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/12/18 10:21 AM
<hr/>			
Compound	%Recovery	Method	Limits
Freon 12	101	70-130	
Vinyl Chloride	112	70-130	
Freon 11	100	70-130	
Freon 113	100	70-130	
1,1-Dichloroethene	99	70-130	
2-Propanol	83	70-130	
Carbon Disulfide	96	70-130	
Methylene Chloride	92	70-130	
Hexane	103	70-130	
1,1-Dichloroethane	96	70-130	
2-Butanone (Methyl Ethyl Ketone)	100	70-130	
Chloroform	99	70-130	
1,1,1-Trichloroethane	98	70-130	
Carbon Tetrachloride	107	70-130	
Benzene	107	70-130	
1,2-Dichloroethane	97	70-130	
Trichloroethene	104	70-130	
1,4-Dioxane	102	70-130	
Toluene	107	70-130	
1,1,2-Trichloroethane	105	70-130	
Tetrachloroethene	108	70-130	
o-Xylene	120	70-130	
TNMOC ref. to Heptane (MW=100)	Not Spiked		

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method	Limits
Toluene-d8	104	70-130	
1,2-Dichloroethane-d4	94	70-130	
4-Bromofluorobenzene	105	70-130	



Air Toxics

Client Sample ID: LCSD

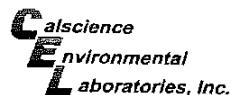
Lab ID#: 1806185-06AA

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	p061204	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/12/18 10:46 AM
Compound	%Recovery	Method	Limits
Freon 12	102	70-130	
Vinyl Chloride	114	70-130	
Freon 11	103	70-130	
Freon 113	100	70-130	
1,1-Dichloroethene	101	70-130	
2-Propanol	86	70-130	
Carbon Disulfide	98	70-130	
Methylene Chloride	94	70-130	
Hexane	107	70-130	
1,1-Dichloroethane	98	70-130	
2-Butanone (Methyl Ethyl Ketone)	103	70-130	
Chloroform	102	70-130	
1,1,1-Trichloroethane	100	70-130	
Carbon Tetrachloride	109	70-130	
Benzene	107	70-130	
1,2-Dichloroethane	97	70-130	
Trichloroethene	103	70-130	
1,4-Dioxane	104	70-130	
Toluene	105	70-130	
1,1,2-Trichloroethane	103	70-130	
Tetrachloroethene	108	70-130	
o-Xylene	117	70-130	
TNMOC ref. to Heptane (MW=100)	Not Spiked		

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method	Limits
Toluene-d8	103	70-130	
1,2-Dichloroethane-d4	95	70-130	
4-Bromofluorobenzene	105	70-130	



7440 LINCOLN WAY  
GARDEN GROVE, CA 92841-1427  
TEL: (714) 895-5494 . FAX: (714) 894-7601

### AIR CHAIN OF CUSTODY RECORD

DATE: 06/05/18  
PAGE: 1 OF 1

LABORATORY CLIENT: de maximis				CLIENT PROJECT NAME / NUMBER: Omega - GWCS Monthly GAC	P.O. NO.:
ADDRESS: 1322 Scott St., Suite 104				PROJECT ADDRESS: 12520 Whittier Blvd.	LAB CONTACT OR QUOTE NO.:
CITY: San Diego	STATE: CA	ZIP: 92106	CITY: Whittier	STATE: CA	ZIP: 90602
TEL: (562) 756-8149	EMAIL: jdinello@dermaximis.com	PROJECT CONTACT: Trent Henderson thenderson@jacobandhefner.com			
TURNAROUND TIME: <input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS				SAMPLER(S): (NAME / SIGNATURE) Khalid Azaar <i>Khalid Azaar</i>	LAB USE ONLY: <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY) <input checked="" type="checkbox"/> EDD				REQUESTED ANALYSES	
SPECIAL INSTRUCTIONS:					

LAB USE ONLY	SAMPLE ID	FIELD ID / Point of Collection	Air Type	Sampling Equipment Info		Start Sampling Information			Stop Sampling Information			TO-15 (TAL 2.3)
			(I) Indoor (SV) Soil Vap. (A) Ambient	Canister ID#	Canister Size 6L or 1L	Flow Controller ID#	Date	Time (24hr clock)	Canister Pressure (^Hg)	Date	Time (24hr clock)	
01a	OC_VGAC_EFF_SP242_060518	SP-EFF-GAC	Vapor	1L2498	1	23580	6/5/2018	10:50	-30	6/5/2018	10:55	-5
02a	OC_VGAC_INT_SP245_060518	SP-MID-GAC	Vapor	1L1722	1	23271	6/5/2018	10:52	-30	6/5/2018	10:57	-5
03a	OC_VGAC_INF_SP241_060518	SP-INF-GAC	Vapor	1L2866	1	23189	6/5/2018	10:54	-30	6/5/2018	10:59	-5
4												
5												
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9												
10												
11												
12												
13												
14												
15												

Relinquished by: (Signature) <i>DA</i>	Received by: (Signature) <i>T. M. H.</i>	Date: 6/11/18 Time: 09:30
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:

Custody Seal Intact?

Y N  None Temp *M* *F-162*

*1808185 KK*  
*1806185 6/11/18*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-208678-1

TestAmerica Sample Delivery Group: Omega Chemical

Client Project/Site: Omega Chemical - GWTS Monthly

For:

Jacob & Hefner Associates P.C.

15375 Barranca Parkway, J-101

Irvine, California 92618

Attn: Trent Henderson

Authorized for release by:

4/21/2018 7:51:05 AM

Danielle Roberts, Senior Project Manager

(949)261-1022

danielle.roberts@testamericainc.com

### LINKS

Review your project  
results through

Total Access

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The  
Expert

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[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Sample Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-208678-1	OC_SP220B_EFF_041118	Water	04/11/18 11:10	04/12/18 16:45
440-208678-2	OC_SP210_INF_041118	Water	04/11/18 11:20	04/12/18 16:45
440-208678-3	OC_TB_041118	Water	04/11/18 11:00	04/12/18 16:45

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TestAmerica Irvine

# Case Narrative

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
SDG: Omega Chemical

**Job ID: 440-208678-1**

**Laboratory: TestAmerica Irvine**

## Narrative

**Job Narrative  
440-208678-1**

## Comments

No additional comments.

## Receipt

The samples were received on 4/12/2018 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° C.

## GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-470947.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Detection Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_041118****Lab Sample ID: 440-208678-1**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Isopropyl alcohol	300		250	ug/L	1		8260B	Total/NA
1,4-Dioxane	19		0.48	ug/L	1		8270C SIM	Total/NA

**Client Sample ID: OC\_SP210\_INF\_041118****Lab Sample ID: 440-208678-2**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	88		13	ug/L	2.5		8260B	Total/NA
1,1-Dichloroethene	50		2.5	ug/L	2.5		8260B	Total/NA
1,2-Dichloroethane	3.0		2.5	ug/L	2.5		8260B	Total/NA
Chloroform	16		2.5	ug/L	2.5		8260B	Total/NA
Tetrachloroethene	320		2.5	ug/L	2.5		8260B	Total/NA
Trichloroethene	38		2.5	ug/L	2.5		8260B	Total/NA
Trichlorofluoromethane	25		2.5	ug/L	2.5		8260B	Total/NA

**Client Sample ID: OC\_TB\_041118****Lab Sample ID: 440-208678-3**

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_041118**

**Lab Sample ID: 440-208678-1**

**Matrix: Water**

**Date Collected: 04/11/18 11:10**

**Date Received: 04/12/18 16:45**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		04/19/18 01:57		1
1,1,1-Trichloroethane	ND		1.0	ug/L		04/19/18 01:57		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		04/19/18 01:57		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L		04/19/18 01:57		1
1,1,2-Trichloroethane	ND		1.0	ug/L		04/19/18 01:57		1
1,1-Dichloroethane	ND		1.0	ug/L		04/19/18 01:57		1
1,1-Dichloroethene	ND		1.0	ug/L		04/19/18 01:57		1
1,1-Dichloropropene	ND		1.0	ug/L		04/19/18 01:57		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		04/19/18 01:57		1
1,2,3-Trichloropropane	ND		1.0	ug/L		04/19/18 01:57		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		04/19/18 01:57		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		04/19/18 01:57		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		04/19/18 01:57		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		04/19/18 01:57		1
1,2-Dichlorobenzene	ND		1.0	ug/L		04/19/18 01:57		1
1,2-Dichloroethane	ND		1.0	ug/L		04/19/18 01:57		1
1,2-Dichloropropane	ND		1.0	ug/L		04/19/18 01:57		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		04/19/18 01:57		1
1,3-Dichlorobenzene	ND		1.0	ug/L		04/19/18 01:57		1
1,3-Dichloropropane	ND		1.0	ug/L		04/19/18 01:57		1
1,4-Dichlorobenzene	ND		1.0	ug/L		04/19/18 01:57		1
2,2-Dichloropropane	ND		1.0	ug/L		04/19/18 01:57		1
2-Chlorotoluene	ND		1.0	ug/L		04/19/18 01:57		1
4-Chlorotoluene	ND		1.0	ug/L		04/19/18 01:57		1
Acetone	ND		10	ug/L		04/19/18 01:57		1
Benzene	ND		0.50	ug/L		04/19/18 01:57		1
Bromobenzene	ND		1.0	ug/L		04/19/18 01:57		1
Bromochloromethane	ND		1.0	ug/L		04/19/18 01:57		1
Bromodichloromethane	ND		1.0	ug/L		04/19/18 01:57		1
Bromoform	ND		1.0	ug/L		04/19/18 01:57		1
Bromomethane	ND		1.0	ug/L		04/19/18 01:57		1
Carbon tetrachloride	ND		0.50	ug/L		04/19/18 01:57		1
Chlorobenzene	ND		1.0	ug/L		04/19/18 01:57		1
Chloroethane	ND		1.0	ug/L		04/19/18 01:57		1
Chloroform	ND		1.0	ug/L		04/19/18 01:57		1
Chloromethane	ND		1.0	ug/L		04/19/18 01:57		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		04/19/18 01:57		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		04/19/18 01:57		1
Dibromochloromethane	ND		1.0	ug/L		04/19/18 01:57		1
Dibromomethane	ND		1.0	ug/L		04/19/18 01:57		1
Dichlorodifluoromethane	ND		1.0	ug/L		04/19/18 01:57		1
Ethylbenzene	ND		1.0	ug/L		04/19/18 01:57		1
Hexachlorobutadiene	ND		1.0	ug/L		04/19/18 01:57		1
<b>Isopropyl alcohol</b>	<b>300</b>		250	ug/L		04/19/18 01:57		1
Isopropylbenzene	ND		1.0	ug/L		04/19/18 01:57		1
m,p-Xylene	ND		1.0	ug/L		04/19/18 01:57		1
Methylene Chloride	ND		5.0	ug/L		04/19/18 01:57		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		04/19/18 01:57		1
Naphthalene	ND		1.0	ug/L		04/19/18 01:57		1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_041118**

**Lab Sample ID: 440-208678-1**

Matrix: Water

Date Collected: 04/11/18 11:10

Date Received: 04/12/18 16:45

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	ug/L		04/19/18 01:57		1
N-Propylbenzene	ND		1.0	ug/L		04/19/18 01:57		1
o-Xylene	ND		1.0	ug/L		04/19/18 01:57		1
p-Isopropyltoluene	ND		1.0	ug/L		04/19/18 01:57		1
sec-Butylbenzene	ND		1.0	ug/L		04/19/18 01:57		1
Styrene	ND		1.0	ug/L		04/19/18 01:57		1
tert-Butylbenzene	ND		1.0	ug/L		04/19/18 01:57		1
Tetrachloroethene	ND		1.0	ug/L		04/19/18 01:57		1
Toluene	ND		1.0	ug/L		04/19/18 01:57		1
trans-1,2-Dichloroethene	ND		1.0	ug/L		04/19/18 01:57		1
trans-1,3-Dichloropropene	ND		0.50	ug/L		04/19/18 01:57		1
Trichloroethene	ND		1.0	ug/L		04/19/18 01:57		1
Trichlorofluoromethane	ND		1.0	ug/L		04/19/18 01:57		1
Vinyl chloride	ND		0.50	ug/L		04/19/18 01:57		1
<b>Surrogate</b>				<b>Prepared</b>		<b>Analyzed</b>	<b>Dil Fac</b>	
1,2-Dichloroethane-d4 (Surr)	85		70 - 130			04/19/18 01:57		1
4-Bromofluorobenzene (Surr)	90		80 - 120			04/19/18 01:57		1
Dibromofluoromethane (Surr)	104		76 - 132			04/19/18 01:57		1
Toluene-d8 (Surr)	94		80 - 128			04/19/18 01:57		1

## Method: 8270C SIM - 1,4 Dioxane by SIM

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	19		0.48	ug/L		04/18/18 10:30	04/19/18 15:18	1
<b>Surrogate</b>				<b>Prepared</b>		<b>Analyzed</b>	<b>Dil Fac</b>	
1,4-Dioxane-d8 (Surr)	62		36 - 90			04/18/18 10:30	04/19/18 15:18	1

**Client Sample ID: OC\_SP210\_INF\_041118**

**Lab Sample ID: 440-208678-2**

Matrix: Water

Date Collected: 04/11/18 11:20

Date Received: 04/12/18 16:45

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		2.5	ug/L		04/19/18 02:23		2.5
1,1,1-Trichloroethane	ND		2.5	ug/L		04/19/18 02:23		2.5
1,1,2,2-Tetrachloroethane	ND		2.5	ug/L		04/19/18 02:23		2.5
<b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>	<b>88</b>		13	ug/L		04/19/18 02:23		2.5
1,1,2-Trichloroethane	ND		2.5	ug/L		04/19/18 02:23		2.5
1,1-Dichloroethane	ND		2.5	ug/L		04/19/18 02:23		2.5
<b>1,1-Dichloroethene</b>	<b>50</b>		2.5	ug/L		04/19/18 02:23		2.5
1,1-Dichloropropene	ND		2.5	ug/L		04/19/18 02:23		2.5
1,2,3-Trichlorobenzene	ND		2.5	ug/L		04/19/18 02:23		2.5
1,2,3-Trichloropropane	ND		2.5	ug/L		04/19/18 02:23		2.5
1,2,4-Trichlorobenzene	ND		2.5	ug/L		04/19/18 02:23		2.5
1,2,4-Trimethylbenzene	ND		2.5	ug/L		04/19/18 02:23		2.5
1,2-Dibromo-3-Chloropropane	ND		13	ug/L		04/19/18 02:23		2.5
1,2-Dibromoethane (EDB)	ND		2.5	ug/L		04/19/18 02:23		2.5
1,2-Dichlorobenzene	ND		2.5	ug/L		04/19/18 02:23		2.5
<b>1,2-Dichloroethane</b>	<b>3.0</b>		2.5	ug/L		04/19/18 02:23		2.5

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP210\_INF\_041118**  
**Date Collected: 04/11/18 11:20**  
**Date Received: 04/12/18 16:45**

**Lab Sample ID: 440-208678-2**  
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		2.5	ug/L		04/19/18 02:23	2.5	
1,3,5-Trimethylbenzene	ND		2.5	ug/L		04/19/18 02:23	2.5	
1,3-Dichlorobenzene	ND		2.5	ug/L		04/19/18 02:23	2.5	
1,3-Dichloropropane	ND		2.5	ug/L		04/19/18 02:23	2.5	
1,4-Dichlorobenzene	ND		2.5	ug/L		04/19/18 02:23	2.5	
2,2-Dichloropropane	ND		2.5	ug/L		04/19/18 02:23	2.5	
2-Chlorotoluene	ND		2.5	ug/L		04/19/18 02:23	2.5	
4-Chlorotoluene	ND		2.5	ug/L		04/19/18 02:23	2.5	
Acetone	ND		25	ug/L		04/19/18 02:23	2.5	
Benzene	ND		1.3	ug/L		04/19/18 02:23	2.5	
Bromobenzene	ND		2.5	ug/L		04/19/18 02:23	2.5	
Bromochloromethane	ND		2.5	ug/L		04/19/18 02:23	2.5	
Bromodichloromethane	ND		2.5	ug/L		04/19/18 02:23	2.5	
Bromoform	ND		2.5	ug/L		04/19/18 02:23	2.5	
Bromomethane	ND		2.5	ug/L		04/19/18 02:23	2.5	
Carbon tetrachloride	ND		1.3	ug/L		04/19/18 02:23	2.5	
Chlorobenzene	ND		2.5	ug/L		04/19/18 02:23	2.5	
Chloroethane	ND		2.5	ug/L		04/19/18 02:23	2.5	
<b>Chloroform</b>	<b>16</b>		2.5	ug/L		04/19/18 02:23	2.5	
Chloromethane	ND		2.5	ug/L		04/19/18 02:23	2.5	
cis-1,2-Dichloroethene	ND		2.5	ug/L		04/19/18 02:23	2.5	
cis-1,3-Dichloropropene	ND		1.3	ug/L		04/19/18 02:23	2.5	
Dibromochloromethane	ND		2.5	ug/L		04/19/18 02:23	2.5	
Dibromomethane	ND		2.5	ug/L		04/19/18 02:23	2.5	
Dichlorodifluoromethane	ND		2.5	ug/L		04/19/18 02:23	2.5	
Ethylbenzene	ND		2.5	ug/L		04/19/18 02:23	2.5	
Hexachlorobutadiene	ND		2.5	ug/L		04/19/18 02:23	2.5	
Isopropyl alcohol	ND		630	ug/L		04/19/18 02:23	2.5	
Isopropylbenzene	ND		2.5	ug/L		04/19/18 02:23	2.5	
m,p-Xylene	ND		2.5	ug/L		04/19/18 02:23	2.5	
Methylene Chloride	ND		13	ug/L		04/19/18 02:23	2.5	
Methyl-t-Butyl Ether (MTBE)	ND		2.5	ug/L		04/19/18 02:23	2.5	
Naphthalene	ND		2.5	ug/L		04/19/18 02:23	2.5	
n-Butylbenzene	ND		2.5	ug/L		04/19/18 02:23	2.5	
N-Propylbenzene	ND		2.5	ug/L		04/19/18 02:23	2.5	
o-Xylene	ND		2.5	ug/L		04/19/18 02:23	2.5	
p-Isopropyltoluene	ND		2.5	ug/L		04/19/18 02:23	2.5	
sec-Butylbenzene	ND		2.5	ug/L		04/19/18 02:23	2.5	
Styrene	ND		2.5	ug/L		04/19/18 02:23	2.5	
tert-Butylbenzene	ND		2.5	ug/L		04/19/18 02:23	2.5	
<b>Tetrachloroethene</b>	<b>320</b>		2.5	ug/L		04/19/18 02:23	2.5	
Toluene	ND		2.5	ug/L		04/19/18 02:23	2.5	
trans-1,2-Dichloroethene	ND		2.5	ug/L		04/19/18 02:23	2.5	
trans-1,3-Dichloropropene	ND		1.3	ug/L		04/19/18 02:23	2.5	
<b>Trichloroethene</b>	<b>38</b>		2.5	ug/L		04/19/18 02:23	2.5	
<b>Trichlorofluoromethane</b>	<b>25</b>		2.5	ug/L		04/19/18 02:23	2.5	
Vinyl chloride	ND		1.3	ug/L		04/19/18 02:23	2.5	

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 130		04/19/18 02:23	2.5

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP210\_INF\_041118**

**Lab Sample ID: 440-208678-2**

Matrix: Water

Date Collected: 04/11/18 11:20

Date Received: 04/12/18 16:45

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		80 - 120		04/19/18 02:23	2.5
Dibromofluoromethane (Surr)	100		76 - 132		04/19/18 02:23	2.5
Toluene-d8 (Surr)	94		80 - 128		04/19/18 02:23	2.5

**Client Sample ID: OC\_TB\_041118**

**Lab Sample ID: 440-208678-3**

Matrix: Water

Date Collected: 04/11/18 11:00

Date Received: 04/12/18 16:45

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		04/19/18 02:50		1
1,1,1-Trichloroethane	ND		1.0	ug/L		04/19/18 02:50		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		04/19/18 02:50		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L		04/19/18 02:50		1
1,1,2-Trichloroethane	ND		1.0	ug/L		04/19/18 02:50		1
1,1-Dichloroethane	ND		1.0	ug/L		04/19/18 02:50		1
1,1-Dichloroethene	ND		1.0	ug/L		04/19/18 02:50		1
1,1-Dichloropropene	ND		1.0	ug/L		04/19/18 02:50		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		04/19/18 02:50		1
1,2,3-Trichloropropane	ND		1.0	ug/L		04/19/18 02:50		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		04/19/18 02:50		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		04/19/18 02:50		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		04/19/18 02:50		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		04/19/18 02:50		1
1,2-Dichlorobenzene	ND		1.0	ug/L		04/19/18 02:50		1
1,2-Dichloroethane	ND		1.0	ug/L		04/19/18 02:50		1
1,2-Dichloropropane	ND		1.0	ug/L		04/19/18 02:50		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		04/19/18 02:50		1
1,3-Dichlorobenzene	ND		1.0	ug/L		04/19/18 02:50		1
1,3-Dichloropropane	ND		1.0	ug/L		04/19/18 02:50		1
1,4-Dichlorobenzene	ND		1.0	ug/L		04/19/18 02:50		1
2,2-Dichloropropane	ND		1.0	ug/L		04/19/18 02:50		1
2-Chlorotoluene	ND		1.0	ug/L		04/19/18 02:50		1
4-Chlorotoluene	ND		1.0	ug/L		04/19/18 02:50		1
Acetone	ND		10	ug/L		04/19/18 02:50		1
Benzene	ND		0.50	ug/L		04/19/18 02:50		1
Bromobenzene	ND		1.0	ug/L		04/19/18 02:50		1
Bromochloromethane	ND		1.0	ug/L		04/19/18 02:50		1
Bromodichloromethane	ND		1.0	ug/L		04/19/18 02:50		1
Bromoform	ND		1.0	ug/L		04/19/18 02:50		1
Bromomethane	ND		1.0	ug/L		04/19/18 02:50		1
Carbon tetrachloride	ND		0.50	ug/L		04/19/18 02:50		1
Chlorobenzene	ND		1.0	ug/L		04/19/18 02:50		1
Chloroethane	ND		1.0	ug/L		04/19/18 02:50		1
Chloroform	ND		1.0	ug/L		04/19/18 02:50		1
Chloromethane	ND		1.0	ug/L		04/19/18 02:50		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		04/19/18 02:50		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		04/19/18 02:50		1
Dibromochloromethane	ND		1.0	ug/L		04/19/18 02:50		1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_TB\_041118**

**Lab Sample ID: 440-208678-3**

Date Collected: 04/11/18 11:00

Matrix: Water

Date Received: 04/12/18 16:45

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		1.0	ug/L		04/19/18 02:50		1
Dichlorodifluoromethane	ND		1.0	ug/L		04/19/18 02:50		1
Ethylbenzene	ND		1.0	ug/L		04/19/18 02:50		1
Hexachlorobutadiene	ND		1.0	ug/L		04/19/18 02:50		1
Isopropyl alcohol	ND		250	ug/L		04/19/18 02:50		1
Isopropylbenzene	ND		1.0	ug/L		04/19/18 02:50		1
m,p-Xylene	ND		1.0	ug/L		04/19/18 02:50		1
Methylene Chloride	ND		5.0	ug/L		04/19/18 02:50		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		04/19/18 02:50		1
Naphthalene	ND		1.0	ug/L		04/19/18 02:50		1
n-Butylbenzene	ND		1.0	ug/L		04/19/18 02:50		1
N-Propylbenzene	ND		1.0	ug/L		04/19/18 02:50		1
o-Xylene	ND		1.0	ug/L		04/19/18 02:50		1
p-Isopropyltoluene	ND		1.0	ug/L		04/19/18 02:50		1
sec-Butylbenzene	ND		1.0	ug/L		04/19/18 02:50		1
Styrene	ND		1.0	ug/L		04/19/18 02:50		1
tert-Butylbenzene	ND		1.0	ug/L		04/19/18 02:50		1
Tetrachloroethene	ND		1.0	ug/L		04/19/18 02:50		1
Toluene	ND		1.0	ug/L		04/19/18 02:50		1
trans-1,2-Dichloroethene	ND		1.0	ug/L		04/19/18 02:50		1
trans-1,3-Dichloropropene	ND		0.50	ug/L		04/19/18 02:50		1
Trichloroethene	ND		1.0	ug/L		04/19/18 02:50		1
Trichlorofluoromethane	ND		1.0	ug/L		04/19/18 02:50		1
Vinyl chloride	ND		0.50	ug/L		04/19/18 02:50		1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 130		04/19/18 02:50	1
4-Bromofluorobenzene (Surr)	90		80 - 120		04/19/18 02:50	1
Dibromofluoromethane (Surr)	102		76 - 132		04/19/18 02:50	1
Toluene-d8 (Surr)	94		80 - 128		04/19/18 02:50	1

# Surrogate Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-208678-1	OC_SP220B_EFF_041118	85	90	104	94
440-208678-2	OC_SP210_INF_041118	86	88	100	94
440-208678-3	OC_TB_041118	86	90	102	94
440-208682-A-4 MS	Matrix Spike	92	88	103	88
440-208682-A-4 MSD	Matrix Spike Duplicate	88	90	101	89
LCS 440-471054/4	Lab Control Sample	87	89	101	89
LCS 440-471054/5	Lab Control Sample	89	89	101	93
MB 440-471054/7	Method Blank	86	90	101	95

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)  
TOL = Toluene-d8 (Surr)

## Method: 8270C SIM - 1,4 Dioxane by SIM

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DXE (36-90)			
440-208678-1	OC_SP220B_EFF_041118	62			
LCS 440-470947/3-A	Lab Control Sample	64			
LCSD 440-470947/4-A	Lab Control Sample Dup	63			
MB 440-470947/1-A	Method Blank	68			

### Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

## Method Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	1,4 Dioxane by SIM	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# Lab Chronicle

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_041118**

**Lab Sample ID: 440-208678-1**

**Matrix: Water**

**Date Collected: 04/11/18 11:10**

**Date Received: 04/12/18 16:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	471054	04/19/18 01:57	JB	TAL IRV
Total/NA	Prep	3520C			1040 mL	1 mL	470947	04/18/18 10:30	AP	TAL IRV
Total/NA	Analysis	8270C SIM		1			471244	04/19/18 15:18	TL	TAL IRV

**Client Sample ID: OC\_SP210\_INF\_041118**

**Lab Sample ID: 440-208678-2**

**Matrix: Water**

**Date Collected: 04/11/18 11:20**

**Date Received: 04/12/18 16:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2.5	10 mL	10 mL	471054	04/19/18 02:23	JB	TAL IRV

**Client Sample ID: OC\_TB\_041118**

**Lab Sample ID: 440-208678-3**

**Matrix: Water**

**Date Collected: 04/11/18 11:00**

**Date Received: 04/12/18 16:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	471054	04/19/18 02:50	JB	TAL IRV

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-471054/7**

**Matrix: Water**

**Analysis Batch: 471054**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		04/18/18 20:41		1
1,1,1-Trichloroethane	ND		1.0	ug/L		04/18/18 20:41		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		04/18/18 20:41		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L		04/18/18 20:41		1
1,1,2-Trichloroethane	ND		1.0	ug/L		04/18/18 20:41		1
1,1-Dichloroethane	ND		1.0	ug/L		04/18/18 20:41		1
1,1-Dichloroethene	ND		1.0	ug/L		04/18/18 20:41		1
1,1-Dichloropropene	ND		1.0	ug/L		04/18/18 20:41		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		04/18/18 20:41		1
1,2,3-Trichloropropane	ND		1.0	ug/L		04/18/18 20:41		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		04/18/18 20:41		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		04/18/18 20:41		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		04/18/18 20:41		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		04/18/18 20:41		1
1,2-Dichlorobenzene	ND		1.0	ug/L		04/18/18 20:41		1
1,2-Dichloroethane	ND		1.0	ug/L		04/18/18 20:41		1
1,2-Dichloropropane	ND		1.0	ug/L		04/18/18 20:41		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		04/18/18 20:41		1
1,3-Dichlorobenzene	ND		1.0	ug/L		04/18/18 20:41		1
1,3-Dichloropropane	ND		1.0	ug/L		04/18/18 20:41		1
1,4-Dichlorobenzene	ND		1.0	ug/L		04/18/18 20:41		1
2,2-Dichloropropane	ND		1.0	ug/L		04/18/18 20:41		1
2-Chlorotoluene	ND		1.0	ug/L		04/18/18 20:41		1
4-Chlorotoluene	ND		1.0	ug/L		04/18/18 20:41		1
Acetone	ND		10	ug/L		04/18/18 20:41		1
Benzene	ND		0.50	ug/L		04/18/18 20:41		1
Bromobenzene	ND		1.0	ug/L		04/18/18 20:41		1
Bromochloromethane	ND		1.0	ug/L		04/18/18 20:41		1
Bromodichloromethane	ND		1.0	ug/L		04/18/18 20:41		1
Bromoform	ND		1.0	ug/L		04/18/18 20:41		1
Bromomethane	ND		1.0	ug/L		04/18/18 20:41		1
Carbon tetrachloride	ND		0.50	ug/L		04/18/18 20:41		1
Chlorobenzene	ND		1.0	ug/L		04/18/18 20:41		1
Chloroethane	ND		1.0	ug/L		04/18/18 20:41		1
Chloroform	ND		1.0	ug/L		04/18/18 20:41		1
Chloromethane	ND		1.0	ug/L		04/18/18 20:41		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		04/18/18 20:41		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		04/18/18 20:41		1
Dibromochloromethane	ND		1.0	ug/L		04/18/18 20:41		1
Dibromomethane	ND		1.0	ug/L		04/18/18 20:41		1
Dichlorodifluoromethane	ND		1.0	ug/L		04/18/18 20:41		1
Ethylbenzene	ND		1.0	ug/L		04/18/18 20:41		1
Hexachlorobutadiene	ND		1.0	ug/L		04/18/18 20:41		1
Isopropyl alcohol	ND		250	ug/L		04/18/18 20:41		1
Isopropylbenzene	ND		1.0	ug/L		04/18/18 20:41		1
m,p-Xylene	ND		1.0	ug/L		04/18/18 20:41		1
Methylene Chloride	ND		5.0	ug/L		04/18/18 20:41		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		04/18/18 20:41		1

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-471054/7**

**Matrix: Water**

**Analysis Batch: 471054**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	ug/L			04/18/18 20:41	1
n-Butylbenzene	ND		1.0	ug/L			04/18/18 20:41	1
N-Propylbenzene	ND		1.0	ug/L			04/18/18 20:41	1
o-Xylene	ND		1.0	ug/L			04/18/18 20:41	1
p-Isopropyltoluene	ND		1.0	ug/L			04/18/18 20:41	1
sec-Butylbenzene	ND		1.0	ug/L			04/18/18 20:41	1
Styrene	ND		1.0	ug/L			04/18/18 20:41	1
tert-Butylbenzene	ND		1.0	ug/L			04/18/18 20:41	1
Tetrachloroethene	ND		1.0	ug/L			04/18/18 20:41	1
Toluene	ND		1.0	ug/L			04/18/18 20:41	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			04/18/18 20:41	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			04/18/18 20:41	1
Trichloroethene	ND		1.0	ug/L			04/18/18 20:41	1
Trichlorofluoromethane	ND		1.0	ug/L			04/18/18 20:41	1
Vinyl chloride	ND		0.50	ug/L			04/18/18 20:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 130		04/18/18 20:41	1
4-Bromofluorobenzene (Surr)	90		80 - 120		04/18/18 20:41	1
Dibromofluoromethane (Surr)	101		76 - 132		04/18/18 20:41	1
Toluene-d8 (Surr)	95		80 - 128		04/18/18 20:41	1

**Lab Sample ID: LCS 440-471054/4**

**Matrix: Water**

**Analysis Batch: 471054**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
1,1,1,2-Tetrachloroethane	25.0	24.6		ug/L		99	60 - 141	
1,1,1-Trichloroethane	25.0	27.7		ug/L		111	70 - 130	
1,1,2,2-Tetrachloroethane	25.0	18.5		ug/L		74	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.3		ug/L		101	60 - 140	
1,1,2-Trichloroethane	25.0	20.6		ug/L		82	70 - 130	
1,1-Dichloroethane	25.0	25.2		ug/L		101	64 - 130	
1,1-Dichloroethene	25.0	25.2		ug/L		101	70 - 130	
1,1-Dichloropropene	25.0	26.9		ug/L		108	70 - 130	
1,2,3-Trichlorobenzene	25.0	22.8		ug/L		91	60 - 140	
1,2,3-Trichloropropane	25.0	18.8		ug/L		75	63 - 130	
1,2,4-Trichlorobenzene	25.0	23.6		ug/L		94	60 - 140	
1,2,4-Trimethylbenzene	25.0	24.7		ug/L		99	70 - 135	
1,2-Dibromo-3-Chloropropane	25.0	17.2		ug/L		69	52 - 140	
1,2-Dibromoethane (EDB)	25.0	20.4		ug/L		82	70 - 130	
1,2-Dichlorobenzene	25.0	24.2		ug/L		97	70 - 130	
1,2-Dichloroethane	25.0	24.5		ug/L		98	57 - 138	
1,2-Dichloropropane	25.0	24.5		ug/L		98	67 - 130	
1,3,5-Trimethylbenzene	25.0	25.3		ug/L		101	70 - 136	
1,3-Dichlorobenzene	25.0	24.2		ug/L		97	70 - 130	
1,3-Dichloropropane	25.0	19.5		ug/L		78	70 - 130	

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-471054/4**

**Matrix: Water**

**Analysis Batch: 471054**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits	5
	Added	Result	Qualifier						
1,4-Dichlorobenzene	25.0	24.1		ug/L		96	70 - 130		6
2,2-Dichloropropane	25.0	23.3		ug/L		93	68 - 141		7
2-Chlorotoluene	25.0	23.1		ug/L		92	70 - 130		8
4-Chlorotoluene	25.0	22.9		ug/L		92	70 - 130		9
Acetone	25.0	21.6		ug/L		86	10 - 150		10
Benzene	25.0	25.6		ug/L		102	68 - 130		11
Bromobenzene	25.0	22.3		ug/L		89	70 - 130		12
Bromochloromethane	25.0	27.2		ug/L		109	70 - 130		13
Bromodichloromethane	25.0	25.3		ug/L		101	70 - 132		14
Bromoform	25.0	21.5		ug/L		86	60 - 148		15
Bromomethane	25.0	22.5		ug/L		90	64 - 139		
Carbon tetrachloride	25.0	29.1		ug/L		117	60 - 150		
Chlorobenzene	25.0	22.2		ug/L		89	70 - 130		
Chloroethane	25.0	21.3		ug/L		85	64 - 135		
Chloroform	25.0	25.9		ug/L		103	70 - 130		
Chloromethane	25.0	23.8		ug/L		95	47 - 140		
cis-1,2-Dichloroethene	25.0	26.1		ug/L		104	70 - 133		
cis-1,3-Dichloropropene	25.0	20.8		ug/L		83	70 - 133		
Dibromochloromethane	25.0	23.5		ug/L		94	69 - 145		
Dibromomethane	25.0	24.5		ug/L		98	70 - 130		
Dichlorodifluoromethane	25.0	22.5		ug/L		90	29 - 150		
Ethylbenzene	25.0	23.0		ug/L		92	70 - 130		
Hexachlorobutadiene	25.0	23.8		ug/L		95	10 - 150		
Isopropylbenzene	25.0	25.0		ug/L		100	70 - 136		
m,p-Xylene	25.0	24.8		ug/L		99	70 - 130		
Methylene Chloride	25.0	22.4		ug/L		90	52 - 130		
Methyl-t-Butyl Ether (MTBE)	25.0	21.0		ug/L		84	63 - 131		
Naphthalene	25.0	21.2		ug/L		85	60 - 140		
n-Butylbenzene	25.0	24.2		ug/L		97	65 - 150		
N-Propylbenzene	25.0	23.6		ug/L		94	67 - 139		
o-Xylene	25.0	24.1		ug/L		97	70 - 130		
p-Isopropyltoluene	25.0	23.8		ug/L		95	70 - 132		
sec-Butylbenzene	25.0	24.7		ug/L		99	70 - 138		
Styrene	25.0	23.8		ug/L		95	70 - 134		
tert-Butylbenzene	25.0	24.5		ug/L		98	70 - 130		
Tetrachloroethene	25.0	24.6		ug/L		98	70 - 130		
Toluene	25.0	23.1		ug/L		92	70 - 130		
trans-1,2-Dichloroethene	25.0	26.6		ug/L		106	70 - 130		
trans-1,3-Dichloropropene	25.0	19.9		ug/L		80	70 - 132		
Trichloroethene	25.0	29.7		ug/L		119	70 - 130		
Trichlorofluoromethane	25.0	25.8		ug/L		103	60 - 150		
Vinyl chloride	25.0	25.5		ug/L		102	59 - 133		

Surrogate	LCS	LCS		
	%Recovery	Qualifier		Limits
1,2-Dichloroethane-d4 (Surr)	87			70 - 130
4-Bromofluorobenzene (Surr)	89			80 - 120
Dibromofluoromethane (Surr)	101			76 - 132
Toluene-d8 (Surr)	89			80 - 128

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

**Lab Sample ID: LCS 440-471054/5**

**Matrix: Water**

**Analysis Batch: 471054**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	250	323		ug/L	129		49 - 142
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Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	89		70 - 130				
4-Bromofluorobenzene (Surr)	89		80 - 120				
Dibromofluoromethane (Surr)	101		76 - 132				
Toluene-d8 (Surr)	93		80 - 128				

**Lab Sample ID: 440-208682-A-4 MS**

**Matrix: Water**

**Analysis Batch: 471054**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	25.2		ug/L	101	60 - 149	
1,1,1-Trichloroethane	ND		25.0	27.6		ug/L	110	70 - 130	
1,1,2,2-Tetrachloroethane	ND		25.0	21.6		ug/L	86	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	25.6		ug/L	102	60 - 140	
1,1,2-Trichloroethane	ND		25.0	22.1		ug/L	88	70 - 130	
1,1-Dichloroethane	ND		25.0	25.4		ug/L	102	65 - 130	
1,1-Dichloroethene	ND		25.0	25.1		ug/L	100	70 - 130	
1,1-Dichloropropene	ND		25.0	27.2		ug/L	109	64 - 130	
1,2,3-Trichlorobenzene	ND		25.0	24.9		ug/L	100	60 - 140	
1,2,3-Trichloropropane	ND		25.0	22.5		ug/L	90	60 - 130	
1,2,4-Trichlorobenzene	ND		25.0	24.6		ug/L	98	60 - 140	
1,2,4-Trimethylbenzene	ND		25.0	24.1		ug/L	96	70 - 130	
1,2-Dibromo-3-Chloropropane	ND		25.0	22.4		ug/L	89	48 - 140	
1,2-Dibromoethane (EDB)	ND		25.0	22.7		ug/L	91	70 - 131	
1,2-Dichlorobenzene	ND		25.0	24.4		ug/L	98	70 - 130	
1,2-Dichloroethane	ND		25.0	26.2		ug/L	105	56 - 146	
1,2-Dichloropropane	ND		25.0	24.6		ug/L	99	69 - 130	
1,3,5-Trimethylbenzene	ND		25.0	24.6		ug/L	98	70 - 130	
1,3-Dichlorobenzene	ND		25.0	24.2		ug/L	97	70 - 130	
1,3-Dichloropropane	ND		25.0	20.5		ug/L	82	70 - 130	
1,4-Dichlorobenzene	ND		25.0	23.9		ug/L	96	70 - 130	
2,2-Dichloropropane	ND		25.0	23.1		ug/L	92	69 - 138	
2-Chlorotoluene	ND		25.0	22.8		ug/L	91	70 - 130	
4-Chlorotoluene	ND		25.0	22.7		ug/L	91	70 - 130	
Acetone	ND		25.0	28.9		ug/L	116	10 - 150	
Benzene	ND		25.0	25.4		ug/L	102	66 - 130	
Bromobenzene	ND		25.0	22.6		ug/L	90	70 - 130	
Bromochloromethane	ND		25.0	28.5		ug/L	114	70 - 130	
Bromodichloromethane	ND		25.0	26.2		ug/L	105	70 - 138	
Bromoform	ND		25.0	24.6		ug/L	98	59 - 150	
Bromomethane	ND		25.0	22.0		ug/L	88	62 - 131	
Carbon tetrachloride	ND		25.0	29.7		ug/L	119	60 - 150	
Chlorobenzene	ND		25.0	22.4		ug/L	90	70 - 130	
Chloroethane	ND		25.0	21.2		ug/L	85	68 - 130	
Chloroform	ND		25.0	25.6		ug/L	102	70 - 130	
Chloromethane	ND		25.0	23.7		ug/L	95	39 - 144	

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-208682-A-4 MS**

**Matrix: Water**

**Analysis Batch: 471054**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
cis-1,2-Dichloroethene	ND		25.0	25.5		ug/L		102	70 - 130
cis-1,3-Dichloropropene	ND		25.0	21.1		ug/L		85	70 - 133
Dibromochloromethane	ND		25.0	24.8		ug/L		99	70 - 148
Dibromomethane	ND		25.0	26.4		ug/L		105	70 - 130
Dichlorodifluoromethane	ND		25.0	22.5		ug/L		90	25 - 142
Ethylbenzene	ND		25.0	23.2		ug/L		93	70 - 130
Hexachlorobutadiene	ND		25.0	24.0		ug/L		96	10 - 150
Isopropyl alcohol	ND		250	353		ug/L		141	46 - 142
Isopropylbenzene	ND		25.0	25.5		ug/L		102	70 - 132
m,p-Xylene	ND		25.0	24.8		ug/L		99	70 - 133
Methylene Chloride	ND		25.0	22.3		ug/L		89	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	22.4		ug/L		90	70 - 130
Naphthalene	ND		25.0	24.9		ug/L		99	60 - 140
n-Butylbenzene	ND		25.0	24.1		ug/L		96	61 - 149
N-Propylbenzene	ND		25.0	23.4		ug/L		94	66 - 135
o-Xylene	ND		25.0	24.0		ug/L		96	70 - 133
p-Isopropyltoluene	ND		25.0	23.5		ug/L		94	70 - 130
sec-Butylbenzene	ND		25.0	24.4		ug/L		97	67 - 134
Styrene	ND		25.0	22.9		ug/L		92	29 - 150
tert-Butylbenzene	ND		25.0	23.7		ug/L		95	70 - 130
Tetrachloroethene	1.7		25.0	25.8		ug/L		97	70 - 137
Toluene	ND		25.0	23.1		ug/L		92	70 - 130
trans-1,2-Dichloroethene	ND		25.0	26.5		ug/L		106	70 - 130
trans-1,3-Dichloropropene	ND		25.0	21.3		ug/L		85	70 - 138
Trichloroethene	1.4		25.0	31.1		ug/L		119	70 - 130
Trichlorofluoromethane	ND		25.0	26.1		ug/L		104	60 - 150
Vinyl chloride	ND		25.0	23.5		ug/L		94	50 - 137
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Surrogate		MS	MS						
		%Recovery	Qualifier			Limits			
1,2-Dichloroethane-d4 (Surr)		92				70 - 130			
4-Bromofluorobenzene (Surr)		88				80 - 120			
Dibromofluoromethane (Surr)		103				76 - 132			
Toluene-d8 (Surr)		88				80 - 128			

**Lab Sample ID: 440-208682-A-4 MSD**

**Matrix: Water**

**Analysis Batch: 471054**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1,1,2-Tetrachloroethane	ND		25.0	24.7		ug/L		99	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	26.9		ug/L		107	70 - 130	3	20
1,1,2,2-Tetrachloroethane	ND		25.0	21.0		ug/L		84	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	25.8		ug/L		103	60 - 140	1	20
1,1,2-Trichloroethane	ND		25.0	21.7		ug/L		87	70 - 130	2	25
1,1-Dichloroethane	ND		25.0	25.5		ug/L		102	65 - 130	0	20
1,1-Dichloroethene	ND		25.0	25.1		ug/L		101	70 - 130	0	20
1,1-Dichloropropene	ND		25.0	27.0		ug/L		108	64 - 130	1	20

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-208682-A-4 MSD**

**Matrix: Water**

**Analysis Batch: 471054**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,2,3-Trichlorobenzene	ND		25.0	24.9		ug/L		100	60 - 140	0	20
1,2,3-Trichloropropane	ND		25.0	21.6		ug/L		86	60 - 130	4	30
1,2,4-Trichlorobenzene	ND		25.0	24.8		ug/L		99	60 - 140	1	20
1,2,4-Trimethylbenzene	ND		25.0	24.2		ug/L		97	70 - 130	0	25
1,2-Dibromo-3-Chloropropane	ND		25.0	20.8		ug/L		83	48 - 140	7	30
1,2-Dibromoethane (EDB)	ND		25.0	22.0		ug/L		88	70 - 131	3	25
1,2-Dichlorobenzene	ND		25.0	24.4		ug/L		98	70 - 130	0	20
1,2-Dichloroethane	ND		25.0	25.1		ug/L		101	56 - 146	4	20
1,2-Dichloropropane	ND		25.0	24.4		ug/L		97	69 - 130	1	20
1,3,5-Trimethylbenzene	ND		25.0	25.2		ug/L		101	70 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130	2	20
1,3-Dichloropropane	ND		25.0	20.3		ug/L		81	70 - 130	1	25
1,4-Dichlorobenzene	ND		25.0	24.0		ug/L		96	70 - 130	0	20
2,2-Dichloropropane	ND		25.0	21.7		ug/L		87	69 - 138	6	25
2-Chlorotoluene	ND		25.0	23.4		ug/L		94	70 - 130	3	20
4-Chlorotoluene	ND		25.0	23.3		ug/L		93	70 - 130	3	20
Acetone	ND		25.0	27.1		ug/L		108	10 - 150	6	35
Benzene	ND		25.0	25.4		ug/L		102	66 - 130	0	20
Bromobenzene	ND		25.0	22.8		ug/L		91	70 - 130	1	20
Bromochloromethane	ND		25.0	27.4		ug/L		109	70 - 130	4	25
Bromodichloromethane	ND		25.0	25.7		ug/L		103	70 - 138	2	20
Bromoform	ND		25.0	23.6		ug/L		94	59 - 150	4	25
Bromomethane	ND		25.0	22.0		ug/L		88	62 - 131	0	25
Carbon tetrachloride	ND		25.0	28.8		ug/L		115	60 - 150	3	25
Chlorobenzene	ND		25.0	22.4		ug/L		90	70 - 130	0	20
Chloroethane	ND		25.0	21.6		ug/L		86	68 - 130	2	25
Chloroform	ND		25.0	25.0		ug/L		100	70 - 130	2	20
Chloromethane	ND		25.0	23.9		ug/L		95	39 - 144	1	25
cis-1,2-Dichloroethene	ND		25.0	25.6		ug/L		102	70 - 130	0	20
cis-1,3-Dichloropropene	ND		25.0	21.3		ug/L		85	70 - 133	1	20
Dibromochloromethane	ND		25.0	24.0		ug/L		96	70 - 148	4	25
Dibromomethane	ND		25.0	25.5		ug/L		102	70 - 130	3	25
Dichlorodifluoromethane	ND		25.0	22.8		ug/L		91	25 - 142	2	30
Ethylbenzene	ND		25.0	23.3		ug/L		93	70 - 130	0	20
Hexachlorobutadiene	ND		25.0	24.6		ug/L		98	10 - 150	3	20
Isopropyl alcohol	ND		250	349		ug/L		140	46 - 142	1	40
Isopropylbenzene	ND		25.0	25.1		ug/L		100	70 - 132	2	20
m,p-Xylene	ND		25.0	24.7		ug/L		99	70 - 133	0	25
Methylene Chloride	ND		25.0	22.0		ug/L		88	52 - 130	2	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	22.1		ug/L		89	70 - 130	1	25
Naphthalene	ND		25.0	24.3		ug/L		97	60 - 140	2	30
n-Butylbenzene	ND		25.0	24.3		ug/L		97	61 - 149	1	20
N-Propylbenzene	ND		25.0	24.1		ug/L		96	66 - 135	3	20
o-Xylene	ND		25.0	23.6		ug/L		94	70 - 133	2	20
p-Isopropyltoluene	ND		25.0	23.8		ug/L		95	70 - 130	1	20
sec-Butylbenzene	ND		25.0	25.1		ug/L		100	67 - 134	3	20
Styrene	ND		25.0	21.7		ug/L		87	29 - 150	5	35
tert-Butylbenzene	ND		25.0	24.4		ug/L		97	70 - 130	3	20

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID:** 440-208682-A-4 MSD

**Matrix:** Water

**Analysis Batch:** 471054

**Client Sample ID:** Matrix Spike Duplicate  
**Prep Type:** Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	Limits	RPD	RPD Limit
Tetrachloroethene	1.7		25.0	26.3		ug/L	98	70 - 137		2	20
Toluene	ND		25.0	23.1		ug/L	92	70 - 130		0	20
trans-1,2-Dichloroethene	ND		25.0	27.0		ug/L	108	70 - 130		2	20
trans-1,3-Dichloropropene	ND		25.0	21.1		ug/L	84	70 - 138		1	25
Trichloroethene	1.4		25.0	31.0		ug/L	119	70 - 130		0	20
Trichlorofluoromethane	ND		25.0	25.5		ug/L	102	60 - 150		2	25
Vinyl chloride	ND		25.0	24.7		ug/L	99	50 - 137		5	30
<hr/>											
Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	88		70 - 130								
4-Bromofluorobenzene (Surr)	90		80 - 120								
Dibromofluoromethane (Surr)	101		76 - 132								
Toluene-d8 (Surr)	89		80 - 128								

## Method: 8270C SIM - 1,4 Dioxane by SIM

**Lab Sample ID:** MB 440-470947/1-A

**Matrix:** Water

**Analysis Batch:** 471244

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA  
**Prep Batch:** 470947

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.51	ug/L		04/18/18 10:30	04/19/18 13:04	1
Surrogate	MB %Recovery	MB Qualifier	MB Limits			Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	68		36 - 90			04/18/18 10:30	04/19/18 13:04	1

**Lab Sample ID:** LCS 440-470947/3-A

**Matrix:** Water

**Analysis Batch:** 471244

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA  
**Prep Batch:** 470947

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
1,4-Dioxane	2.03	1.43		ug/L	70	36 - 120	
Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits				
1,4-Dioxane-d8 (Surr)	64		36 - 90				

**Lab Sample ID:** LCSD 440-470947/4-A

**Matrix:** Water

**Analysis Batch:** 471244

**Client Sample ID:** Lab Control Sample Dup  
**Prep Type:** Total/NA  
**Prep Batch:** 470947

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec.	Limits	RPD	RPD Limit
1,4-Dioxane	2.03	1.42		ug/L	70	36 - 120		1	35
Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits						
1,4-Dioxane-d8 (Surr)	63		36 - 90						

# QC Association Summary

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
 SDG: Omega Chemical

## GC/MS VOA

### Analysis Batch: 471054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-208678-1	OC_SP220B_EFF_041118	Total/NA	Water	8260B	
440-208678-2	OC_SP210_INF_041118	Total/NA	Water	8260B	
440-208678-3	OC_TB_041118	Total/NA	Water	8260B	
MB 440-471054/7	Method Blank	Total/NA	Water	8260B	
LCS 440-471054/4	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-471054/5	Lab Control Sample	Total/NA	Water	8260B	
440-208682-A-4 MS	Matrix Spike	Total/NA	Water	8260B	
440-208682-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

## GC/MS Semi VOA

### Prep Batch: 470947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-208678-1	OC_SP220B_EFF_041118	Total/NA	Water	3520C	
MB 440-470947/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-470947/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-470947/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	

### Analysis Batch: 471244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-208678-1	OC_SP220B_EFF_041118	Total/NA	Water	8270C SIM	
MB 440-470947/1-A	Method Blank	Total/NA	Water	8270C SIM	
LCS 440-470947/3-A	Lab Control Sample	Total/NA	Water	8270C SIM	
LCSD 440-470947/4-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	

## Definitions/Glossary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
SDG: Omega Chemical

### Glossary

**Abbreviation** These commonly used abbreviations may or may not be present in this report.

□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-208678-1  
SDG: Omega Chemical

## Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-18
The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:				
Analysis Method	Prep Method	Matrix	Analyte	
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane	
8260B		Water	m,p-Xylene	
8270C SIM	3520C	Water	1,4-Dioxane	

**TestAmerica Irvine**  
 17461 Derian Ave  
 Suite 100  
 Irvine, CA 92614  
 phone 949.261.1022 fax

## Chain of Custody Record

**TestAmerica**  
 THE LEADER IN ENVIRONMENTAL TESTING  
**TestAmerica Laboratories, Inc.**

Regulatory Program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input checked="" type="checkbox"/> RCRA <input type="checkbox"/> Other:						
<b>Client Contact</b> De Maximis - Jaime Dinello 1322 Scott St., Suite 104 San Diego, CA 92106 (562) 756-8149  Project Name: Omega Chemical - GWTS Monthly Site: Omega Chemical P O #:		<b>Project Manager:</b> Trent Henderson Tel/Fax: (949) 453-1045 / (949) 453-1047  <b>Analysis Turnaround Time</b> <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <u>STD</u> <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		<b>Site Contact:</b> Khalid Azhar <b>Lab Contact:</b> Danielle Roberts <b>Date:</b> 4/11/2018 <b>Carrier:</b>		
				<b>COC No.</b> _____ of _____ COCs <b>Sampler</b> <b>For Lab Use Only:</b> Walk-in Client. <input type="checkbox"/> Lab Sampling: <input type="checkbox"/>  <b>Job / SDG No.:</b> _____		
<b>Sample Identification</b>						
<b>Sample Date</b> OC_SP220B_EFF_04 11 18		<b>Sample Time</b> 4/11/2018 1110	<b>Sample Type (C=Comp, G=Grab)</b> Grab	<b>Matrix</b> GW	<b># of Cont.</b> 5	
OC_SP210_INF_04 11 18		4/11/2018 1120	Grab	GW	3	
OC_TB_04 11 18		4/11/2018 1100	H2O	2		
<b>Preservation Used:</b> 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other						
<b>Possible Hazard Identification:</b> Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						
<b>Sample Disposal</b> ( A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months						
<b>Special Instructions/QC Requirements &amp; Comments:</b> <i>It 25/3/1 88</i>						
<b>Custody Seals Intact:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Custody Seal No.:</b>		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____		
<b>Relinquished by:</b> <i>K</i>		<b>Company:</b> <i>JTA</i>	<b>Date/Time:</b> <i>1100 4/12/18</i>	<b>Received by:</b> <i>[Signature]</i>	<b>Company:</b> <i>Tar</i>	<b>Date/Time:</b> <i>4-12-18 1108</i>
<b>Relinquished by:</b> <i>DW</i>		<b>Company:</b> <i>Tar</i>	<b>Date/Time:</b> <i>4/12/18 1645</i>	<b>Received by:</b> <i>[Signature]</i>	<b>Company:</b> _____	<b>Date/Time:</b> _____
<b>Relinquished by:</b> <i>[Signature]</i>		<b>Company:</b> _____	<b>Date/Time:</b> _____	<b>Received in Laboratory by:</b> <i>[Signature]</i>	<b>Company:</b> <i>JTA (PLC)</i>	<b>Date/Time:</b> <i>4/12/18 1645</i>

## Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-208678-1  
SDG Number: Omega Chemical

**Login Number:** 208678

**List Source:** TestAmerica Irvine

**List Number:** 1

**Creator:** Soderblom, Tim

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		6
The cooler's custody seal, if present, is intact.	N/A	Not present	7
Sample custody seals, if present, are intact.	N/A	Not Present	8
The cooler or samples do not appear to have been compromised or tampered with.	True		9
Samples were received on ice.	True		10
Cooler Temperature is acceptable.	True		11
Cooler Temperature is recorded.	True		12
COC is present.	True		13
COC is filled out in ink and legible.	True		14
COC is filled out with all pertinent information.	True		15
Is the Field Sampler's name present on COC?	True		
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

[TestAmerica Job ID: 440-211014-1](#)

TestAmerica Sample Delivery Group: Omega Chemical

Client Project/Site: Omega Chemical - GWTS Monthly

For:

Jacob & Hefner Associates P.C.

15375 Barranca Parkway, J-101

Irvine, California 92618

Attn: Trent Henderson

Authorized for release by:

5/19/2018 7:17:59 AM

Danielle Roberts, Senior Project Manager

(949)261-1022

[danielle.roberts@testamericainc.com](mailto:danielle.roberts@testamericainc.com)

### LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Sample Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-211014-1	OC_SP220B_EFF_050918	Water	05/09/18 10:10	05/10/18 18:25
440-211014-2	OC_SP210_INF_050918	Water	05/09/18 10:15	05/10/18 18:25
440-211014-3	OC_TB_050918	Water	05/09/18 10:00	05/10/18 18:25

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TestAmerica Irvine

# Case Narrative

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
SDG: Omega Chemical

## Job ID: 440-211014-1

### Laboratory: TestAmerica Irvine

#### Narrative

#### Job Narrative 440-211014-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 5/10/2018 6:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.0° C.

#### Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

#### GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-475511. 3520C\_8270-SIM 1,4 Dioxane.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Detection Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_050918****Lab Sample ID: 440-211014-1**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Acetone	18		10	ug/L	1		8260B	Total/NA
1,4-Dioxane	15		0.48	ug/L	1		8270C SIM	Total/NA

**Client Sample ID: OC\_SP210\_INF\_050918****Lab Sample ID: 440-211014-2**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	93		25	ug/L	5		8260B	Total/NA
1,1-Dichloroethene	54		5.0	ug/L	5		8260B	Total/NA
Chloroform	15		5.0	ug/L	5		8260B	Total/NA
Tetrachloroethylene	340		5.0	ug/L	5		8260B	Total/NA
Trichloroethene	31		5.0	ug/L	5		8260B	Total/NA
Trichlorofluoromethane	26		5.0	ug/L	5		8260B	Total/NA

**Client Sample ID: OC\_TB\_050918****Lab Sample ID: 440-211014-3**

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_050918**

**Lab Sample ID: 440-211014-1**

**Matrix: Water**

Date Collected: 05/09/18 10:10  
 Date Received: 05/10/18 18:25

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		05/15/18 14:28		1
1,1,1-Trichloroethane	ND		1.0	ug/L		05/15/18 14:28		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		05/15/18 14:28		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L		05/15/18 14:28		1
1,1,2-Trichloroethane	ND		1.0	ug/L		05/15/18 14:28		1
1,1-Dichloroethane	ND		1.0	ug/L		05/15/18 14:28		1
1,1-Dichloroethene	ND		1.0	ug/L		05/15/18 14:28		1
1,1-Dichloropropene	ND		1.0	ug/L		05/15/18 14:28		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		05/15/18 14:28		1
1,2,3-Trichloropropane	ND		1.0	ug/L		05/15/18 14:28		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		05/15/18 14:28		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		05/15/18 14:28		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		05/15/18 14:28		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		05/15/18 14:28		1
1,2-Dichlorobenzene	ND		1.0	ug/L		05/15/18 14:28		1
1,2-Dichloroethane	ND		1.0	ug/L		05/15/18 14:28		1
1,2-Dichloropropane	ND		1.0	ug/L		05/15/18 14:28		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		05/15/18 14:28		1
1,3-Dichlorobenzene	ND		1.0	ug/L		05/15/18 14:28		1
1,3-Dichloropropane	ND		1.0	ug/L		05/15/18 14:28		1
1,4-Dichlorobenzene	ND		1.0	ug/L		05/15/18 14:28		1
2,2-Dichloropropane	ND		1.0	ug/L		05/15/18 14:28		1
2-Chlorotoluene	ND		1.0	ug/L		05/15/18 14:28		1
4-Chlorotoluene	ND		1.0	ug/L		05/15/18 14:28		1
<b>Acetone</b>	<b>18</b>		10	ug/L		05/15/18 14:28		1
Benzene	ND		0.50	ug/L		05/15/18 14:28		1
Bromobenzene	ND		1.0	ug/L		05/15/18 14:28		1
Bromochloromethane	ND		1.0	ug/L		05/15/18 14:28		1
Bromodichloromethane	ND		1.0	ug/L		05/15/18 14:28		1
Bromoform	ND		1.0	ug/L		05/15/18 14:28		1
Bromomethane	ND		1.0	ug/L		05/15/18 14:28		1
Carbon tetrachloride	ND		0.50	ug/L		05/15/18 14:28		1
Chlorobenzene	ND		1.0	ug/L		05/15/18 14:28		1
Chloroethane	ND		1.0	ug/L		05/15/18 14:28		1
Chloroform	ND		1.0	ug/L		05/15/18 14:28		1
Chloromethane	ND		1.0	ug/L		05/15/18 14:28		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		05/15/18 14:28		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		05/15/18 14:28		1
Dibromochloromethane	ND		1.0	ug/L		05/15/18 14:28		1
Dibromomethane	ND		1.0	ug/L		05/15/18 14:28		1
Dichlorodifluoromethane	ND		1.0	ug/L		05/15/18 14:28		1
Ethylbenzene	ND		1.0	ug/L		05/15/18 14:28		1
Hexachlorobutadiene	ND		1.0	ug/L		05/15/18 14:28		1
Isopropyl alcohol	ND		250	ug/L		05/15/18 14:28		1
Isopropylbenzene	ND		1.0	ug/L		05/15/18 14:28		1
m,p-Xylene	ND		1.0	ug/L		05/15/18 14:28		1
Methylene Chloride	ND		5.0	ug/L		05/15/18 14:28		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		05/15/18 14:28		1
Naphthalene	ND		1.0	ug/L		05/15/18 14:28		1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_050918**

**Lab Sample ID: 440-211014-1**

Matrix: Water

Date Collected: 05/09/18 10:10

Date Received: 05/10/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	ug/L		05/15/18 14:28		1
N-Propylbenzene	ND		1.0	ug/L		05/15/18 14:28		1
o-Xylene	ND		1.0	ug/L		05/15/18 14:28		1
p-Isopropyltoluene	ND		1.0	ug/L		05/15/18 14:28		1
sec-Butylbenzene	ND		1.0	ug/L		05/15/18 14:28		1
Styrene	ND		1.0	ug/L		05/15/18 14:28		1
tert-Butylbenzene	ND		1.0	ug/L		05/15/18 14:28		1
Tetrachloroethene	ND		1.0	ug/L		05/15/18 14:28		1
Toluene	ND		1.0	ug/L		05/15/18 14:28		1
trans-1,2-Dichloroethene	ND		1.0	ug/L		05/15/18 14:28		1
trans-1,3-Dichloropropene	ND		0.50	ug/L		05/15/18 14:28		1
Trichloroethene	ND		1.0	ug/L		05/15/18 14:28		1
Trichlorofluoromethane	ND		1.0	ug/L		05/15/18 14:28		1
Vinyl chloride	ND		0.50	ug/L		05/15/18 14:28		1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	108		70 - 130			05/15/18 14:28		1
4-Bromofluorobenzene (Surr)	100		80 - 120			05/15/18 14:28		1
Dibromofluoromethane (Surr)	100		76 - 132			05/15/18 14:28		1
Toluene-d8 (Surr)	104		80 - 128			05/15/18 14:28		1

## Method: 8270C SIM - 1,4 Dioxane by SIM

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15		0.48	ug/L		05/11/18 07:15	05/12/18 17:52	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,4-Dioxane-d8 (Surr)	53		36 - 90			05/11/18 07:15	05/12/18 17:52	1

**Client Sample ID: OC\_SP210\_INF\_050918**

**Lab Sample ID: 440-211014-2**

Matrix: Water

Date Collected: 05/09/18 10:15

Date Received: 05/10/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	ug/L		05/15/18 14:58		5
1,1,1-Trichloroethane	ND		5.0	ug/L		05/15/18 14:58		5
1,1,2,2-Tetrachloroethane	ND		5.0	ug/L		05/15/18 14:58		5
<b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>	<b>93</b>		<b>25</b>	<b>ug/L</b>		<b>05/15/18 14:58</b>		<b>5</b>
1,1,2-Trichloroethane	ND		5.0	ug/L		05/15/18 14:58		5
1,1-Dichloroethane	ND		5.0	ug/L		05/15/18 14:58		5
<b>1,1-Dichloroethene</b>	<b>54</b>		<b>5.0</b>	<b>ug/L</b>		<b>05/15/18 14:58</b>		<b>5</b>
1,1-Dichloropropene	ND		5.0	ug/L		05/15/18 14:58		5
1,2,3-Trichlorobenzene	ND		5.0	ug/L		05/15/18 14:58		5
1,2,3-Trichloropropane	ND		5.0	ug/L		05/15/18 14:58		5
1,2,4-Trichlorobenzene	ND		5.0	ug/L		05/15/18 14:58		5
1,2,4-Trimethylbenzene	ND		5.0	ug/L		05/15/18 14:58		5
1,2-Dibromo-3-Chloropropane	ND		25	ug/L		05/15/18 14:58		5
1,2-Dibromoethane (EDB)	ND		5.0	ug/L		05/15/18 14:58		5
1,2-Dichlorobenzene	ND		5.0	ug/L		05/15/18 14:58		5
1,2-Dichloroethane	ND		5.0	ug/L		05/15/18 14:58		5

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP210\_INF\_050918**

**Lab Sample ID: 440-211014-2**

**Matrix: Water**

Date Collected: 05/09/18 10:15

Date Received: 05/10/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		5.0	ug/L		05/15/18 14:58		5
1,3,5-Trimethylbenzene	ND		5.0	ug/L		05/15/18 14:58		5
1,3-Dichlorobenzene	ND		5.0	ug/L		05/15/18 14:58		5
1,3-Dichloropropane	ND		5.0	ug/L		05/15/18 14:58		5
1,4-Dichlorobenzene	ND		5.0	ug/L		05/15/18 14:58		5
2,2-Dichloropropane	ND		5.0	ug/L		05/15/18 14:58		5
2-Chlorotoluene	ND		5.0	ug/L		05/15/18 14:58		5
4-Chlorotoluene	ND		5.0	ug/L		05/15/18 14:58		5
Acetone	ND		50	ug/L		05/15/18 14:58		5
Benzene	ND		2.5	ug/L		05/15/18 14:58		5
Bromobenzene	ND		5.0	ug/L		05/15/18 14:58		5
Bromochloromethane	ND		5.0	ug/L		05/15/18 14:58		5
Bromodichloromethane	ND		5.0	ug/L		05/15/18 14:58		5
Bromoform	ND		5.0	ug/L		05/15/18 14:58		5
Bromomethane	ND		5.0	ug/L		05/15/18 14:58		5
Carbon tetrachloride	ND		2.5	ug/L		05/15/18 14:58		5
Chlorobenzene	ND		5.0	ug/L		05/15/18 14:58		5
Chloroethane	ND		5.0	ug/L		05/15/18 14:58		5
<b>Chloroform</b>	<b>15</b>		5.0	ug/L		05/15/18 14:58		5
Chloromethane	ND		5.0	ug/L		05/15/18 14:58		5
cis-1,2-Dichloroethene	ND		5.0	ug/L		05/15/18 14:58		5
cis-1,3-Dichloropropene	ND		2.5	ug/L		05/15/18 14:58		5
Dibromochloromethane	ND		5.0	ug/L		05/15/18 14:58		5
Dibromomethane	ND		5.0	ug/L		05/15/18 14:58		5
Dichlorodifluoromethane	ND		5.0	ug/L		05/15/18 14:58		5
Ethylbenzene	ND		5.0	ug/L		05/15/18 14:58		5
Hexachlorobutadiene	ND		5.0	ug/L		05/15/18 14:58		5
Isopropyl alcohol	ND		1300	ug/L		05/15/18 14:58		5
Isopropylbenzene	ND		5.0	ug/L		05/15/18 14:58		5
m,p-Xylene	ND		5.0	ug/L		05/15/18 14:58		5
Methylene Chloride	ND		25	ug/L		05/15/18 14:58		5
Methyl-t-Butyl Ether (MTBE)	ND		5.0	ug/L		05/15/18 14:58		5
Naphthalene	ND		5.0	ug/L		05/15/18 14:58		5
n-Butylbenzene	ND		5.0	ug/L		05/15/18 14:58		5
N-Propylbenzene	ND		5.0	ug/L		05/15/18 14:58		5
o-Xylene	ND		5.0	ug/L		05/15/18 14:58		5
p-Isopropyltoluene	ND		5.0	ug/L		05/15/18 14:58		5
sec-Butylbenzene	ND		5.0	ug/L		05/15/18 14:58		5
Styrene	ND		5.0	ug/L		05/15/18 14:58		5
tert-Butylbenzene	ND		5.0	ug/L		05/15/18 14:58		5
<b>Tetrachloroethene</b>	<b>340</b>		5.0	ug/L		05/15/18 14:58		5
Toluene	ND		5.0	ug/L		05/15/18 14:58		5
trans-1,2-Dichloroethene	ND		5.0	ug/L		05/15/18 14:58		5
trans-1,3-Dichloropropene	ND		2.5	ug/L		05/15/18 14:58		5
<b>Trichloroethene</b>	<b>31</b>		5.0	ug/L		05/15/18 14:58		5
<b>Trichlorofluoromethane</b>	<b>26</b>		5.0	ug/L		05/15/18 14:58		5
Vinyl chloride	ND		2.5	ug/L		05/15/18 14:58		5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 130		05/15/18 14:58	5

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP210\_INF\_050918**

**Lab Sample ID: 440-211014-2**

Matrix: Water

Date Collected: 05/09/18 10:15  
 Date Received: 05/10/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		05/15/18 14:58	5
Dibromofluoromethane (Surr)	97		76 - 132		05/15/18 14:58	5
Toluene-d8 (Surr)	102		80 - 128		05/15/18 14:58	5

**Client Sample ID: OC\_TB\_050918**

**Lab Sample ID: 440-211014-3**

Matrix: Water

Date Collected: 05/09/18 10:00  
 Date Received: 05/10/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			05/15/18 15:28	1
1,1,1-Trichloroethane	ND		1.0	ug/L			05/15/18 15:28	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			05/15/18 15:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			05/15/18 15:28	1
1,1,2-Trichloroethane	ND		1.0	ug/L			05/15/18 15:28	1
1,1-Dichloroethane	ND		1.0	ug/L			05/15/18 15:28	1
1,1-Dichloroethene	ND		1.0	ug/L			05/15/18 15:28	1
1,1-Dichloropropene	ND		1.0	ug/L			05/15/18 15:28	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			05/15/18 15:28	1
1,2,3-Trichloropropane	ND		1.0	ug/L			05/15/18 15:28	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			05/15/18 15:28	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			05/15/18 15:28	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			05/15/18 15:28	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			05/15/18 15:28	1
1,2-Dichlorobenzene	ND		1.0	ug/L			05/15/18 15:28	1
1,2-Dichloroethane	ND		1.0	ug/L			05/15/18 15:28	1
1,2-Dichloropropane	ND		1.0	ug/L			05/15/18 15:28	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			05/15/18 15:28	1
1,3-Dichlorobenzene	ND		1.0	ug/L			05/15/18 15:28	1
1,3-Dichloropropane	ND		1.0	ug/L			05/15/18 15:28	1
1,4-Dichlorobenzene	ND		1.0	ug/L			05/15/18 15:28	1
2,2-Dichloropropane	ND		1.0	ug/L			05/15/18 15:28	1
2-Chlorotoluene	ND		1.0	ug/L			05/15/18 15:28	1
4-Chlorotoluene	ND		1.0	ug/L			05/15/18 15:28	1
Acetone	ND		10	ug/L			05/15/18 15:28	1
Benzene	ND		0.50	ug/L			05/15/18 15:28	1
Bromobenzene	ND		1.0	ug/L			05/15/18 15:28	1
Bromochloromethane	ND		1.0	ug/L			05/15/18 15:28	1
Bromodichloromethane	ND		1.0	ug/L			05/15/18 15:28	1
Bromoform	ND		1.0	ug/L			05/15/18 15:28	1
Bromomethane	ND		1.0	ug/L			05/15/18 15:28	1
Carbon tetrachloride	ND		0.50	ug/L			05/15/18 15:28	1
Chlorobenzene	ND		1.0	ug/L			05/15/18 15:28	1
Chloroethane	ND		1.0	ug/L			05/15/18 15:28	1
Chloroform	ND		1.0	ug/L			05/15/18 15:28	1
Chloromethane	ND		1.0	ug/L			05/15/18 15:28	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			05/15/18 15:28	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			05/15/18 15:28	1
Dibromochloromethane	ND		1.0	ug/L			05/15/18 15:28	1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_TB\_050918**

**Lab Sample ID: 440-211014-3**

Date Collected: 05/09/18 10:00

Matrix: Water

Date Received: 05/10/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		1.0	ug/L		05/15/18 15:28		1
Dichlorodifluoromethane	ND		1.0	ug/L		05/15/18 15:28		1
Ethylbenzene	ND		1.0	ug/L		05/15/18 15:28		1
Hexachlorobutadiene	ND		1.0	ug/L		05/15/18 15:28		1
Isopropyl alcohol	ND		250	ug/L		05/15/18 15:28		1
Isopropylbenzene	ND		1.0	ug/L		05/15/18 15:28		1
m,p-Xylene	ND		1.0	ug/L		05/15/18 15:28		1
Methylene Chloride	ND		5.0	ug/L		05/15/18 15:28		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		05/15/18 15:28		1
Naphthalene	ND		1.0	ug/L		05/15/18 15:28		1
n-Butylbenzene	ND		1.0	ug/L		05/15/18 15:28		1
N-Propylbenzene	ND		1.0	ug/L		05/15/18 15:28		1
o-Xylene	ND		1.0	ug/L		05/15/18 15:28		1
p-Isopropyltoluene	ND		1.0	ug/L		05/15/18 15:28		1
sec-Butylbenzene	ND		1.0	ug/L		05/15/18 15:28		1
Styrene	ND		1.0	ug/L		05/15/18 15:28		1
tert-Butylbenzene	ND		1.0	ug/L		05/15/18 15:28		1
Tetrachloroethene	ND		1.0	ug/L		05/15/18 15:28		1
Toluene	ND		1.0	ug/L		05/15/18 15:28		1
trans-1,2-Dichloroethene	ND		1.0	ug/L		05/15/18 15:28		1
trans-1,3-Dichloropropene	ND		0.50	ug/L		05/15/18 15:28		1
Trichloroethene	ND		1.0	ug/L		05/15/18 15:28		1
Trichlorofluoromethane	ND		1.0	ug/L		05/15/18 15:28		1
Vinyl chloride	ND		0.50	ug/L		05/15/18 15:28		1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 130		05/15/18 15:28	1
4-Bromofluorobenzene (Surr)	99		80 - 120		05/15/18 15:28	1
Dibromofluoromethane (Surr)	101		76 - 132		05/15/18 15:28	1
Toluene-d8 (Surr)	102		80 - 128		05/15/18 15:28	1

# Surrogate Summary

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-211014-1	OC_SP220B_EFF_050918	108	100	100	104
440-211014-2	OC_SP210_INF_050918	106	100	97	102
440-211014-3	OC_TB_050918	110	99	101	102
440-211021-A-2 MS	Matrix Spike	100	98	95	97
440-211021-A-2 MSD	Matrix Spike Duplicate	98	99	96	97
LCS 440-476164/8	Lab Control Sample	101	99	97	96
LCS 440-476164/9	Lab Control Sample	101	99	95	104
MB 440-476164/7	Method Blank	102	100	95	104

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
 BFB = 4-Bromofluorobenzene (Surr)  
 DBFM = Dibromofluoromethane (Surr)  
 TOL = Toluene-d8 (Surr)

## Method: 8270C SIM - 1,4 Dioxane by SIM

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DXE (36-90)			
440-211014-1	OC_SP220B_EFF_050918	53			
LCS 440-475511/2-A	Lab Control Sample	63			
LCSD 440-475511/3-A	Lab Control Sample Dup	53			
MB 440-475511/1-A	Method Blank	54			

### Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

## Method Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	1,4 Dioxane by SIM	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# Lab Chronicle

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_050918**

Date Collected: 05/09/18 10:10

Date Received: 05/10/18 18:25

**Lab Sample ID: 440-211014-1**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	476164	05/15/18 14:28	TCN	TAL IRV
Total/NA	Prep	3520C			1035 mL	1.0 mL	475511	05/11/18 07:15	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			475830	05/12/18 17:52	HN	TAL IRV

**Client Sample ID: OC\_SP210\_INF\_050918**

Date Collected: 05/09/18 10:15

Date Received: 05/10/18 18:25

**Lab Sample ID: 440-211014-2**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	10 mL	10 mL	476164	05/15/18 14:58	TCN	TAL IRV

**Client Sample ID: OC\_TB\_050918**

Date Collected: 05/09/18 10:00

Date Received: 05/10/18 18:25

**Lab Sample ID: 440-211014-3**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	476164	05/15/18 15:28	TCN	TAL IRV

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-476164/7**

**Matrix: Water**

**Analysis Batch: 476164**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		05/15/18 10:25		1
1,1,1-Trichloroethane	ND		1.0	ug/L		05/15/18 10:25		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		05/15/18 10:25		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L		05/15/18 10:25		1
1,1,2-Trichloroethane	ND		1.0	ug/L		05/15/18 10:25		1
1,1-Dichloroethane	ND		1.0	ug/L		05/15/18 10:25		1
1,1-Dichloroethene	ND		1.0	ug/L		05/15/18 10:25		1
1,1-Dichloropropene	ND		1.0	ug/L		05/15/18 10:25		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		05/15/18 10:25		1
1,2,3-Trichloropropane	ND		1.0	ug/L		05/15/18 10:25		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		05/15/18 10:25		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		05/15/18 10:25		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		05/15/18 10:25		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		05/15/18 10:25		1
1,2-Dichlorobenzene	ND		1.0	ug/L		05/15/18 10:25		1
1,2-Dichloroethane	ND		1.0	ug/L		05/15/18 10:25		1
1,2-Dichloropropane	ND		1.0	ug/L		05/15/18 10:25		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		05/15/18 10:25		1
1,3-Dichlorobenzene	ND		1.0	ug/L		05/15/18 10:25		1
1,3-Dichloropropane	ND		1.0	ug/L		05/15/18 10:25		1
1,4-Dichlorobenzene	ND		1.0	ug/L		05/15/18 10:25		1
2,2-Dichloropropane	ND		1.0	ug/L		05/15/18 10:25		1
2-Chlorotoluene	ND		1.0	ug/L		05/15/18 10:25		1
4-Chlorotoluene	ND		1.0	ug/L		05/15/18 10:25		1
Acetone	ND		10	ug/L		05/15/18 10:25		1
Benzene	ND		0.50	ug/L		05/15/18 10:25		1
Bromobenzene	ND		1.0	ug/L		05/15/18 10:25		1
Bromochloromethane	ND		1.0	ug/L		05/15/18 10:25		1
Bromodichloromethane	ND		1.0	ug/L		05/15/18 10:25		1
Bromoform	ND		1.0	ug/L		05/15/18 10:25		1
Bromomethane	ND		1.0	ug/L		05/15/18 10:25		1
Carbon tetrachloride	ND		0.50	ug/L		05/15/18 10:25		1
Chlorobenzene	ND		1.0	ug/L		05/15/18 10:25		1
Chloroethane	ND		1.0	ug/L		05/15/18 10:25		1
Chloroform	ND		1.0	ug/L		05/15/18 10:25		1
Chloromethane	ND		1.0	ug/L		05/15/18 10:25		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		05/15/18 10:25		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		05/15/18 10:25		1
Dibromochloromethane	ND		1.0	ug/L		05/15/18 10:25		1
Dibromomethane	ND		1.0	ug/L		05/15/18 10:25		1
Dichlorodifluoromethane	ND		1.0	ug/L		05/15/18 10:25		1
Ethylbenzene	ND		1.0	ug/L		05/15/18 10:25		1
Hexachlorobutadiene	ND		1.0	ug/L		05/15/18 10:25		1
Isopropyl alcohol	ND		250	ug/L		05/15/18 10:25		1
Isopropylbenzene	ND		1.0	ug/L		05/15/18 10:25		1
m,p-Xylene	ND		1.0	ug/L		05/15/18 10:25		1
Methylene Chloride	ND		5.0	ug/L		05/15/18 10:25		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		05/15/18 10:25		1

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-476164/7**

**Matrix: Water**

**Analysis Batch: 476164**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	ug/L			05/15/18 10:25	1
n-Butylbenzene	ND		1.0	ug/L			05/15/18 10:25	1
N-Propylbenzene	ND		1.0	ug/L			05/15/18 10:25	1
o-Xylene	ND		1.0	ug/L			05/15/18 10:25	1
p-Isopropyltoluene	ND		1.0	ug/L			05/15/18 10:25	1
sec-Butylbenzene	ND		1.0	ug/L			05/15/18 10:25	1
Styrene	ND		1.0	ug/L			05/15/18 10:25	1
tert-Butylbenzene	ND		1.0	ug/L			05/15/18 10:25	1
Tetrachloroethene	ND		1.0	ug/L			05/15/18 10:25	1
Toluene	ND		1.0	ug/L			05/15/18 10:25	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			05/15/18 10:25	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			05/15/18 10:25	1
Trichloroethene	ND		1.0	ug/L			05/15/18 10:25	1
Trichlorofluoromethane	ND		1.0	ug/L			05/15/18 10:25	1
Vinyl chloride	ND		0.50	ug/L			05/15/18 10:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 130		05/15/18 10:25	1
4-Bromofluorobenzene (Surr)	100		80 - 120		05/15/18 10:25	1
Dibromofluoromethane (Surr)	95		76 - 132		05/15/18 10:25	1
Toluene-d8 (Surr)	104		80 - 128		05/15/18 10:25	1

**Lab Sample ID: LCS 440-476164/8**

**Matrix: Water**

**Analysis Batch: 476164**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limts
1,1,1,2-Tetrachloroethane	25.0	26.3		ug/L		105	60 - 141
1,1,1-Trichloroethane	25.0	26.0		ug/L		104	70 - 130
1,1,2,2-Tetrachloroethane	25.0	26.7		ug/L		107	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.7		ug/L		99	60 - 140
1,1,2-Trichloroethane	25.0	26.5		ug/L		106	70 - 130
1,1-Dichloroethane	25.0	25.5		ug/L		102	64 - 130
1,1-Dichloroethene	25.0	24.8		ug/L		99	70 - 130
1,1-Dichloropropene	25.0	26.9		ug/L		108	70 - 130
1,2,3-Trichlorobenzene	25.0	28.5		ug/L		114	60 - 140
1,2,3-Trichloropropane	25.0	27.1		ug/L		108	63 - 130
1,2,4-Trichlorobenzene	25.0	27.7		ug/L		111	60 - 140
1,2,4-Trimethylbenzene	25.0	27.5		ug/L		110	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	28.7		ug/L		115	52 - 140
1,2-Dibromoethane (EDB)	25.0	25.7		ug/L		103	70 - 130
1,2-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130
1,2-Dichloroethane	25.0	26.3		ug/L		105	57 - 138
1,2-Dichloropropane	25.0	26.6		ug/L		106	67 - 130
1,3,5-Trimethylbenzene	25.0	27.7		ug/L		111	70 - 136
1,3-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130
1,3-Dichloropropane	25.0	26.0		ug/L		104	70 - 130

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-476164/8**

**Matrix: Water**

**Analysis Batch: 476164**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
1,4-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130		
2,2-Dichloropropane	25.0	24.6		ug/L		98	68 - 141		
2-Chlorotoluene	25.0	26.5		ug/L		106	70 - 130		
4-Chlorotoluene	25.0	27.1		ug/L		108	70 - 130		
Acetone	25.0	30.3		ug/L		121	10 - 150		
Benzene	25.0	25.9		ug/L		104	68 - 130		
Bromobenzene	25.0	25.9		ug/L		103	70 - 130		
Bromochloromethane	25.0	25.6		ug/L		102	70 - 130		
Bromodichloromethane	25.0	25.9		ug/L		103	70 - 132		
Bromoform	25.0	26.2		ug/L		105	60 - 148		
Bromomethane	25.0	24.0		ug/L		96	64 - 139		
Carbon tetrachloride	25.0	26.6		ug/L		106	60 - 150		
Chlorobenzene	25.0	24.5		ug/L		98	70 - 130		
Chloroethane	25.0	24.5		ug/L		98	64 - 135		
Chloroform	25.0	25.9		ug/L		104	70 - 130		
Chloromethane	25.0	19.2		ug/L		77	47 - 140		
cis-1,2-Dichloroethene	25.0	26.5		ug/L		106	70 - 133		
cis-1,3-Dichloropropene	25.0	27.5		ug/L		110	70 - 133		
Dibromochloromethane	25.0	26.6		ug/L		106	69 - 145		
Dibromomethane	25.0	26.1		ug/L		104	70 - 130		
Dichlorodifluoromethane	25.0	15.9		ug/L		64	29 - 150		
Ethylbenzene	25.0	25.9		ug/L		104	70 - 130		
Hexachlorobutadiene	25.0	27.2		ug/L		109	10 - 150		
Isopropylbenzene	25.0	26.7		ug/L		107	70 - 136		
m,p-Xylene	25.0	26.7		ug/L		107	70 - 130		
Methylene Chloride	25.0	24.5		ug/L		98	52 - 130		
Methyl-t-Butyl Ether (MTBE)	25.0	25.7		ug/L		103	63 - 131		
Naphthalene	25.0	27.1		ug/L		108	60 - 140		
n-Butylbenzene	25.0	28.3		ug/L		113	65 - 150		
N-Propylbenzene	25.0	27.6		ug/L		110	67 - 139		
o-Xylene	25.0	26.9		ug/L		108	70 - 130		
p-Isopropyltoluene	25.0	26.8		ug/L		107	70 - 132		
sec-Butylbenzene	25.0	27.6		ug/L		110	70 - 138		
Styrene	25.0	26.9		ug/L		108	70 - 134		
tert-Butylbenzene	25.0	27.0		ug/L		108	70 - 130		
Tetrachloroethene	25.0	25.5		ug/L		102	70 - 130		
Toluene	25.0	25.6		ug/L		102	70 - 130		
trans-1,2-Dichloroethene	25.0	26.2		ug/L		105	70 - 130		
trans-1,3-Dichloropropene	25.0	26.9		ug/L		108	70 - 132		
Trichloroethene	25.0	25.7		ug/L		103	70 - 130		
Trichlorofluoromethane	25.0	24.6		ug/L		99	60 - 150		
Vinyl chloride	25.0	23.0		ug/L		92	59 - 133		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	97		76 - 132
Toluene-d8 (Surr)	96		80 - 128

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

**Lab Sample ID: LCS 440-476164/9**  
**Matrix: Water**  
**Analysis Batch: 476164**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	250	243	J	ug/L	97	49 - 142	
<hr/>							
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	101		70 - 130				
4-Bromofluorobenzene (Surr)	99		80 - 120				
Dibromofluoromethane (Surr)	95		76 - 132				
Toluene-d8 (Surr)	104		80 - 128				

**Lab Sample ID: 440-211021-A-2 MS**  
**Matrix: Water**  
**Analysis Batch: 476164**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	22.2		ug/L	89	60 - 149	
1,1,1-Trichloroethane	ND		25.0	22.7		ug/L	91	70 - 130	
1,1,2,2-Tetrachloroethane	ND		25.0	23.0		ug/L	92	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	22.4		ug/L	89	60 - 140	
1,1,2-Trichloroethane	ND		25.0	22.3		ug/L	89	70 - 130	
1,1-Dichloroethane	ND		25.0	21.6		ug/L	87	65 - 130	
1,1-Dichloroethene	ND		25.0	22.1		ug/L	88	70 - 130	
1,1-Dichloropropene	ND		25.0	24.0		ug/L	96	64 - 130	
1,2,3-Trichlorobenzene	ND		25.0	24.9		ug/L	100	60 - 140	
1,2,3-Trichloropropane	ND		25.0	23.3		ug/L	93	60 - 130	
1,2,4-Trichlorobenzene	ND		25.0	24.7		ug/L	99	60 - 140	
1,2,4-Trimethylbenzene	ND		25.0	23.3		ug/L	93	70 - 130	
1,2-Dibromo-3-Chloropropane	ND		25.0	24.7		ug/L	99	48 - 140	
1,2-Dibromoethane (EDB)	ND		25.0	22.4		ug/L	90	70 - 131	
1,2-Dichlorobenzene	ND		25.0	22.1		ug/L	89	70 - 130	
1,2-Dichloroethane	ND		25.0	22.0		ug/L	88	56 - 146	
1,2-Dichloropropane	ND		25.0	22.1		ug/L	89	69 - 130	
1,3,5-Trimethylbenzene	ND		25.0	23.6		ug/L	94	70 - 130	
1,3-Dichlorobenzene	ND		25.0	22.0		ug/L	88	70 - 130	
1,3-Dichloropropane	ND		25.0	22.0		ug/L	88	70 - 130	
1,4-Dichlorobenzene	ND		25.0	21.9		ug/L	88	70 - 130	
2,2-Dichloropropane	ND		25.0	22.4		ug/L	90	69 - 138	
2-Chlorotoluene	ND		25.0	22.3		ug/L	89	70 - 130	
4-Chlorotoluene	ND		25.0	22.6		ug/L	90	70 - 130	
Acetone	ND	F1	25.0	33.8		ug/L	135	10 - 150	
Benzene	ND		25.0	21.9		ug/L	88	66 - 130	
Bromobenzene	ND		25.0	21.7		ug/L	87	70 - 130	
Bromochloromethane	ND		25.0	21.7		ug/L	87	70 - 130	
Bromodichloromethane	ND		25.0	22.0		ug/L	88	70 - 138	
Bromoform	ND		25.0	22.0		ug/L	88	59 - 150	
Bromomethane	ND		25.0	21.1		ug/L	84	62 - 131	
Carbon tetrachloride	ND		25.0	23.0		ug/L	92	60 - 150	
Chlorobenzene	ND		25.0	20.9		ug/L	84	70 - 130	
Chloroethane	ND		25.0	21.9		ug/L	88	68 - 130	
Chloroform	ND		25.0	22.1		ug/L	88	70 - 130	
Chloromethane	ND		25.0	16.6		ug/L	67	39 - 144	

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-211021-A-2 MS**

**Matrix: Water**

**Analysis Batch: 476164**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits	
	Result	Qualifier	Added	Result	Qualifier						
cis-1,2-Dichloroethene	ND		25.0	22.4		ug/L		90	70 - 130		
cis-1,3-Dichloropropene	ND		25.0	23.5		ug/L		94	70 - 133		
Dibromochloromethane	ND		25.0	22.4		ug/L		90	70 - 148		
Dibromomethane	ND		25.0	21.8		ug/L		87	70 - 130		
Dichlorodifluoromethane	ND		25.0	15.7		ug/L		63	25 - 142		
Ethylbenzene	ND		25.0	22.4		ug/L		89	70 - 130		
Hexachlorobutadiene	ND		25.0	25.2		ug/L		101	10 - 150		
Isopropyl alcohol	ND		250	275		ug/L		110	46 - 142		
Isopropylbenzene	ND		25.0	23.1		ug/L		92	70 - 132		
m,p-Xylene	ND		25.0	23.1		ug/L		92	70 - 133		
Methylene Chloride	ND		25.0	22.2		ug/L		89	52 - 130		
Methyl-t-Butyl Ether (MTBE)	ND		25.0	21.7		ug/L		87	70 - 130		
Naphthalene	ND		25.0	23.8		ug/L		95	60 - 140		
n-Butylbenzene	ND		25.0	25.1		ug/L		100	61 - 149		
N-Propylbenzene	ND		25.0	24.0		ug/L		96	66 - 135		
o-Xylene	ND		25.0	22.9		ug/L		92	70 - 133		
p-Isopropyltoluene	ND		25.0	23.4		ug/L		94	70 - 130		
sec-Butylbenzene	ND		25.0	24.2		ug/L		97	67 - 134		
Styrene	ND		25.0	22.9		ug/L		92	29 - 150		
tert-Butylbenzene	ND		25.0	23.7		ug/L		95	70 - 130		
Tetrachloroethene	ND		25.0	22.6		ug/L		90	70 - 137		
Toluene	ND		25.0	21.9		ug/L		88	70 - 130		
trans-1,2-Dichloroethene	ND		25.0	22.4		ug/L		90	70 - 130		
trans-1,3-Dichloropropene	ND		25.0	23.2		ug/L		93	70 - 138		
Trichloroethene	ND		25.0	21.9		ug/L		88	70 - 130		
Trichlorofluoromethane	ND		25.0	22.2		ug/L		89	60 - 150		
Vinyl chloride	ND		25.0	20.0		ug/L		80	50 - 137		

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	95		76 - 132
Toluene-d8 (Surr)	97		80 - 128

**Lab Sample ID: 440-211021-A-2 MSD**

**Matrix: Water**

**Analysis Batch: 476164**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1,1,2-Tetrachloroethane	ND		25.0	25.3		ug/L		101	60 - 149	13	20
1,1,1-Trichloroethane	ND		25.0	25.6		ug/L		102	70 - 130	12	20
1,1,2,2-Tetrachloroethane	ND		25.0	26.8		ug/L		107	63 - 130	15	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	25.4		ug/L		102	60 - 140	13	20
1,1,2-Trichloroethane	ND		25.0	25.5		ug/L		102	70 - 130	13	25
1,1-Dichloroethane	ND		25.0	24.6		ug/L		98	65 - 130	13	20
1,1-Dichloroethene	ND		25.0	25.2		ug/L		101	70 - 130	13	20
1,1-Dichloropropene	ND		25.0	27.4		ug/L		110	64 - 130	13	20

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-211021-A-2 MSD**

**Matrix: Water**

**Analysis Batch: 476164**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,2,3-Trichlorobenzene	ND		25.0	28.4		ug/L	114	60 - 140	13	20	
1,2,3-Trichloropropane	ND		25.0	26.9		ug/L	108	60 - 130	14	30	
1,2,4-Trichlorobenzene	ND		25.0	28.3		ug/L	113	60 - 140	14	20	
1,2,4-Trimethylbenzene	ND		25.0	27.1		ug/L	108	70 - 130	15	25	
1,2-Dibromo-3-Chloropropane	ND		25.0	28.1		ug/L	113	48 - 140	13	30	
1,2-Dibromoethane (EDB)	ND		25.0	25.4		ug/L	102	70 - 131	13	25	
1,2-Dichlorobenzene	ND		25.0	25.4		ug/L	102	70 - 130	14	20	
1,2-Dichloroethane	ND		25.0	25.4		ug/L	102	56 - 146	14	20	
1,2-Dichloropropane	ND		25.0	25.5		ug/L	102	69 - 130	14	20	
1,3,5-Trimethylbenzene	ND		25.0	27.4		ug/L	110	70 - 130	15	20	
1,3-Dichlorobenzene	ND		25.0	25.3		ug/L	101	70 - 130	14	20	
1,3-Dichloropropane	ND		25.0	24.9		ug/L	99	70 - 130	12	25	
1,4-Dichlorobenzene	ND		25.0	25.0		ug/L	100	70 - 130	13	20	
2,2-Dichloropropane	ND		25.0	24.6		ug/L	98	69 - 138	9	25	
2-Chlorotoluene	ND		25.0	26.1		ug/L	105	70 - 130	16	20	
4-Chlorotoluene	ND		25.0	26.4		ug/L	106	70 - 130	16	20	
Acetone	ND	F1	25.0	38.5	F1	ug/L	154	10 - 150	13	35	
Benzene	ND		25.0	25.3		ug/L	101	66 - 130	14	20	
Bromobenzene	ND		25.0	25.2		ug/L	101	70 - 130	15	20	
Bromochloromethane	ND		25.0	25.1		ug/L	100	70 - 130	14	25	
Bromodichloromethane	ND		25.0	25.7		ug/L	103	70 - 138	15	20	
Bromoform	ND		25.0	25.5		ug/L	102	59 - 150	15	25	
Bromomethane	ND		25.0	24.2		ug/L	97	62 - 131	14	25	
Carbon tetrachloride	ND		25.0	26.5		ug/L	106	60 - 150	14	25	
Chlorobenzene	ND		25.0	23.7		ug/L	95	70 - 130	12	20	
Chloroethane	ND		25.0	25.3		ug/L	101	68 - 130	14	25	
Chloroform	ND		25.0	24.8		ug/L	99	70 - 130	12	20	
Chloromethane	ND		25.0	19.7		ug/L	79	39 - 144	17	25	
cis-1,2-Dichloroethene	ND		25.0	25.7		ug/L	103	70 - 130	14	20	
cis-1,3-Dichloropropene	ND		25.0	26.4		ug/L	106	70 - 133	12	20	
Dibromochloromethane	ND		25.0	25.6		ug/L	102	70 - 148	13	25	
Dibromomethane	ND		25.0	25.0		ug/L	100	70 - 130	14	25	
Dichlorodifluoromethane	ND		25.0	17.2		ug/L	69	25 - 142	9	30	
Ethylbenzene	ND		25.0	25.0		ug/L	100	70 - 130	11	20	
Hexachlorobutadiene	ND		25.0	28.4		ug/L	114	10 - 150	12	20	
Isopropyl alcohol	ND		250	316		ug/L	126	46 - 142	14	40	
Isopropylbenzene	ND		25.0	26.1		ug/L	104	70 - 132	12	20	
m,p-Xylene	ND		25.0	26.1		ug/L	104	70 - 133	12	25	
Methylene Chloride	ND		25.0	24.8		ug/L	99	52 - 130	11	20	
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.8		ug/L	99	70 - 130	13	25	
Naphthalene	ND		25.0	27.9		ug/L	112	60 - 140	16	30	
n-Butylbenzene	ND		25.0	28.7		ug/L	115	61 - 149	14	20	
N-Propylbenzene	ND		25.0	27.8		ug/L	111	66 - 135	15	20	
o-Xylene	ND		25.0	26.0		ug/L	104	70 - 133	12	20	
p-Isopropyltoluene	ND		25.0	27.0		ug/L	108	70 - 130	14	20	
sec-Butylbenzene	ND		25.0	27.6		ug/L	111	67 - 134	13	20	
Styrene	ND		25.0	26.0		ug/L	104	29 - 150	13	35	
tert-Butylbenzene	ND		25.0	27.2		ug/L	109	70 - 130	14	20	

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-211021-A-2 MSD**

**Matrix: Water**

**Analysis Batch: 476164**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Tetrachloroethene	ND		25.0	25.1		ug/L		100	70 - 137	11	20
Toluene	ND		25.0	24.7		ug/L		99	70 - 130	12	20
trans-1,2-Dichloroethene	ND		25.0	26.0		ug/L		104	70 - 130	15	20
trans-1,3-Dichloropropene	ND		25.0	26.3		ug/L		105	70 - 138	12	25
Trichloroethene	ND		25.0	25.0		ug/L		100	70 - 130	13	20
Trichlorofluoromethane	ND		25.0	24.7		ug/L		99	60 - 150	10	25
Vinyl chloride	ND		25.0	22.8		ug/L		91	50 - 137	13	30
<hr/>											
Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	98		70 - 130								
4-Bromofluorobenzene (Surr)	99		80 - 120								
Dibromofluoromethane (Surr)	96		76 - 132								
Toluene-d8 (Surr)	97		80 - 128								

## Method: 8270C SIM - 1,4 Dioxane by SIM

**Lab Sample ID: MB 440-475511/1-A**

**Matrix: Water**

**Analysis Batch: 475830**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 475511**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	ug/L		05/11/18 07:15	05/12/18 16:46	1
<hr/>								
<b>Surrogate</b>								
1,4-Dioxane-d8 (Surr)	54		36 - 90			Prepared	Analyzed	Dil Fac
						05/11/18 07:15	05/12/18 16:46	1

**Lab Sample ID: LCS 440-475511/2-A**

**Matrix: Water**

**Analysis Batch: 475830**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 475511**

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,4-Dioxane		1.96	1.29		ug/L		66	36 - 120
<hr/>								
<b>Surrogate</b>								
1,4-Dioxane-d8 (Surr)	63		36 - 90					

**Lab Sample ID: LCSD 440-475511/3-A**

**Matrix: Water**

**Analysis Batch: 475830**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 475511**

Analyte		Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dioxane		1.95	1.09		ug/L		56	36 - 120	16	35
<hr/>										
<b>Surrogate</b>										
1,4-Dioxane-d8 (Surr)	53		36 - 90							

# QC Association Summary

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
 SDG: Omega Chemical

## GC/MS VOA

### Analysis Batch: 476164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211014-1	OC_SP220B_EFF_050918	Total/NA	Water	8260B	
440-211014-2	OC_SP210_INF_050918	Total/NA	Water	8260B	
440-211014-3	OC_TB_050918	Total/NA	Water	8260B	
MB 440-476164/7	Method Blank	Total/NA	Water	8260B	
LCS 440-476164/8	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-476164/9	Lab Control Sample	Total/NA	Water	8260B	
440-211021-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-211021-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

## GC/MS Semi VOA

### Prep Batch: 475511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211014-1	OC_SP220B_EFF_050918	Total/NA	Water	3520C	
MB 440-475511/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-475511/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-475511/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

### Analysis Batch: 475830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211014-1	OC_SP220B_EFF_050918	Total/NA	Water	8270C SIM	
MB 440-475511/1-A	Method Blank	Total/NA	Water	8270C SIM	
LCS 440-475511/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	
LCSD 440-475511/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	

# Definitions/Glossary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
SDG: Omega Chemical

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

### Abbreviation

**These commonly used abbreviations may or may not be present in this report.**

□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

## Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-211014-1  
SDG: Omega Chemical

### Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

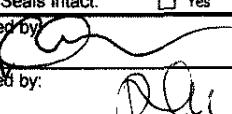
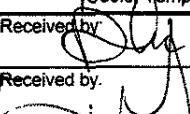
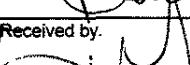
Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine

17461 Denan Ave  
Suite 100  
Irvine, CA 92614  
phone 949.261.1022 fax

## Chain of Custody Record

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING  
**TestAmerica Laboratories, Inc.**

Client Contact		Project Manager: Trent Henderson Tel/Fax: (949) 453-1045 / (949) 453-1047		Site Contact: Khalid Azhar Lab Contact: Danielle Roberts		Date: 5/9/2018 Carrier:		COC No: of COCs	
De Maximis - Jaime Dinello 1322 Scott St., Suite 104 San Diego, CA 92106 (562) 756-8149		Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS  <input type="checkbox"/> TAT if different from Below      STD  <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day						Sampler For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No:	
Project Name: Omega Chemical - GWTS Monthly Site: Omega Chemical P O #:								Sample Specific Notes	
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	EPA 8220C - 1-HDolare Perfom MS / MSD (Y/N)		
OC_SP220B_EFF_050918		5/9/2018	1010	Grab	GW	5	x x		
OC_SP210_INF_050918		5/9/2018	1015	Grab	GW	3	x		
OC_TB_050918		5/9/2018	1000		H2O	2	x		
 440-211014 Chain of Custody									
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other									
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown					Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months				
Special Instructions/QC Requirements & Comments:									
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No:		Cooler Temp. (°C). Obs'd:		Con'd:		Therm ID No.:	
Relinquished by: 		Company: TA		Date/Time: 1150 5/9/18		Received by: 		Company: TA-IRV	
Relinquished by: 		Company: TA-1P		Date/Time: 102 5/10/18		Received by: 		Company:	
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:		Company: TA-IRV	
44 50 12-25									

## Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-211014-1  
SDG Number: Omega Chemical

**Login Number: 211014**

**List Source: TestAmerica Irvine**

**List Number: 1**

**Creator: Soderblom, Tim**

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		
The cooler's custody seal, if present, is intact.	N/A	Not present	
Sample custody seals, if present, are intact.	N/A	Not Present	
The cooler or samples do not appear to have been compromised or tampered with.	True		
Samples were received on ice.	True		
Cooler Temperature is acceptable.	True		
Cooler Temperature is recorded.	True		
COC is present.	True		
COC is filled out in ink and legible.	True		
COC is filled out with all pertinent information.	True		
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.	
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

[TestAmerica Job ID: 440-211591-1](#)

TestAmerica Sample Delivery Group: Whittier, CA

Client Project/Site: Omega Chemical WW 24 Hour Composite

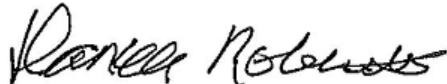
For:

Jacob & Hefner Associates P.C.

15375 Barranca Parkway, J-101

Irvine, California 92618

Attn: Trent Henderson



Authorized for release by:

5/26/2018 7:18:40 AM

Danielle Roberts, Senior Project Manager

(949)261-1022

[danielle.roberts@testamericainc.com](mailto:danielle.roberts@testamericainc.com)

### LINKS

Review your project  
results through

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The  
Expert

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[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Sample Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-211591-1	Composite	Water	05/18/18 08:00	05/18/18 14:45
440-211591-2	Grab	Water	05/18/18 08:10	05/18/18 14:45

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TestAmerica Irvine

# Case Narrative

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Job ID: 440-211591-1

### Laboratory: TestAmerica Irvine

#### Narrative

#### Job Narrative 440-211591-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 5/18/2018 2:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

#### GC/MS VOA

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-478012 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 440-478012 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270C: The laboratory control sample (LCS) for preparation batch 440-477895 and analytical batch 440-478357 recovered outside control limits for the following analytes: Hexachlorocyclopentadiene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270C: The percent recovery of Benzidine in the laboratory control sample (LCS) for preparation batch 440-477895 and analytical batch 440-478357 was below the method detection limit (MDL). Despite the recovery meeting percent limits, the response cannot be considered valid. Per the EPA method, this compound is subject to oxidative loss during sample preparation and as a consequence yields erratic recoveries. As a result, benzidine is reported with possible low bias for the following samples:

(LCSD 440-477895/3-A)

Method(s) 8270C SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-477875 and analytical batch 440-478024. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-477875/3-A). Method 8270C-SIM.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Detection Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

### Client Sample ID: Composite

### Lab Sample ID: 440-211591-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	1.7		1.0	mg/L	1		SM 2540D	Total/NA
Chemical Oxygen Demand	22		20	mg/L	1		SM 5220D	Total/NA

### Client Sample ID: Grab

### Lab Sample ID: 440-211591-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	15		0.52	ug/L	1		8270C SIM	Total/NA
pH	8.7	HF	0.1	SU	1		SM 4500 H+ B	Total/NA
Field pH	8.24			SU	1		Field Sampling	Total/NA
Field Temperature	65.3			Fahrenheit	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Client Sample ID: Composite

Date Collected: 05/18/18 08:00

Date Received: 05/18/18 14:45

## Lab Sample ID: 440-211591-1

Matrix: Water

### General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	1.7		1.0	mg/L			05/23/18 15:33	1
Chemical Oxygen Demand	22		20	mg/L			05/24/18 15:37	1

## Client Sample ID: Grab

Date Collected: 05/18/18 08:10

Date Received: 05/18/18 14:45

## Lab Sample ID: 440-211591-2

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			05/23/18 10:45	1
Acrolein	ND		5.0	ug/L			05/21/18 09:36	1
1,1,1-Trichloroethane	ND		1.0	ug/L			05/23/18 10:45	1
Acrylonitrile	ND		2.0	ug/L			05/21/18 09:36	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			05/23/18 10:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			05/23/18 10:45	1
2-Chloroethyl vinyl ether	ND		2.0	ug/L			05/21/18 09:36	1
1,1,2-Trichloroethane	ND		1.0	ug/L			05/23/18 10:45	1
1,1-Dichloroethane	ND		1.0	ug/L			05/23/18 10:45	1
1,1-Dichloroethene	ND		1.0	ug/L			05/23/18 10:45	1
Total Volatile Organic Compounds	ND		150	ug/L			05/21/18 09:36	1
1,1-Dichloropropene	ND		1.0	ug/L			05/23/18 10:45	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			05/23/18 10:45	1
1,2,3-Trichloropropane	ND		1.0	ug/L			05/23/18 10:45	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			05/23/18 10:45	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			05/23/18 10:45	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			05/23/18 10:45	1
1,2-Dichlorobenzene	ND		1.0	ug/L			05/23/18 10:45	1
1,2-Dichloroethane	ND		1.0	ug/L			05/23/18 10:45	1
1,2-Dichloropropane	ND		1.0	ug/L			05/23/18 10:45	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
1,3-Dichlorobenzene	ND		1.0	ug/L			05/23/18 10:45	1
1,3-Dichloropropane	ND		1.0	ug/L			05/23/18 10:45	1
1,4-Dichlorobenzene	ND		1.0	ug/L			05/23/18 10:45	1
2,2-Dichloropropane	ND		1.0	ug/L			05/23/18 10:45	1
2-Chlorotoluene	ND		1.0	ug/L			05/23/18 10:45	1
4-Chlorotoluene	ND		1.0	ug/L			05/23/18 10:45	1
Benzene	ND		0.50	ug/L			05/23/18 10:45	1
Bromobenzene	ND		1.0	ug/L			05/23/18 10:45	1
Bromochloromethane	ND		1.0	ug/L			05/23/18 10:45	1
Bromodichloromethane	ND		1.0	ug/L			05/23/18 10:45	1
Bromoform	ND		1.0	ug/L			05/23/18 10:45	1
Bromomethane	ND		1.0	ug/L			05/23/18 10:45	1
Carbon tetrachloride	ND		0.50	ug/L			05/23/18 10:45	1
Chlorobenzene	ND		1.0	ug/L			05/23/18 10:45	1
Chloroethane	ND		1.0	ug/L			05/23/18 10:45	1
Chloroform	ND		1.0	ug/L			05/23/18 10:45	1
Chloromethane	ND		1.0	ug/L			05/23/18 10:45	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			05/23/18 10:45	1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Client Sample ID: Grab

Date Collected: 05/18/18 08:10

Date Received: 05/18/18 14:45

## Lab Sample ID: 440-211591-2

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	ug/L			05/23/18 10:45	1
Dibromochloromethane	ND		1.0	ug/L			05/23/18 10:45	1
Dibromomethane	ND		1.0	ug/L			05/23/18 10:45	1
Dichlorodifluoromethane	ND		1.0	ug/L			05/23/18 10:45	1
Ethylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
Hexachlorobutadiene	ND		1.0	ug/L			05/23/18 10:45	1
Isopropylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
m,p-Xylene	ND		1.0	ug/L			05/23/18 10:45	1
Methylene Chloride	ND		5.0	ug/L			05/23/18 10:45	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			05/23/18 10:45	1
Naphthalene	ND		1.0	ug/L			05/23/18 10:45	1
n-Butylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
N-Propylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
o-Xylene	ND		1.0	ug/L			05/23/18 10:45	1
p-Isopropyltoluene	ND		1.0	ug/L			05/23/18 10:45	1
sec-Butylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
Styrene	ND		1.0	ug/L			05/23/18 10:45	1
tert-Butylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
Tetrachloroethene	ND		1.0	ug/L			05/23/18 10:45	1
Toluene	ND		1.0	ug/L			05/23/18 10:45	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			05/23/18 10:45	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			05/23/18 10:45	1
Trichloroethene	ND		1.0	ug/L			05/23/18 10:45	1
Trichlorofluoromethane	ND		1.0	ug/L			05/23/18 10:45	1
Vinyl chloride	ND		0.50	ug/L			05/23/18 10:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		80 - 120		05/21/18 09:36	1
Dibromofluoromethane (Surr)	100		76 - 132		05/21/18 09:36	1
Toluene-d8 (Surr)	97		80 - 128		05/21/18 09:36	1
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		05/21/18 09:36	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 130		05/23/18 10:45	1
4-Bromofluorobenzene (Surr)	102		80 - 120		05/23/18 10:45	1
Dibromofluoromethane (Surr)	97		76 - 132		05/23/18 10:45	1
Toluene-d8 (Surr)	105		80 - 128		05/23/18 10:45	1

### Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	ug/L			05/24/18 12:55	1
Isopropyl alcohol	ND		250	ug/L			05/24/18 12:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 130		05/24/18 12:55	1
4-Bromofluorobenzene (Surr)	92		80 - 120		05/24/18 12:55	1
Dibromofluoromethane (Surr)	102		76 - 132		05/24/18 12:55	1
Toluene-d8 (Surr)	96		80 - 128		05/24/18 12:55	1

### Method: 8270C SIM - 1,4 Dioxane by SIM

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15		0.52	ug/L		05/22/18 12:28	05/23/18 14:40	1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Client Sample ID: Grab

Date Collected: 05/18/18 08:10

Date Received: 05/18/18 14:45

## Lab Sample ID: 440-211591-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	52		36 - 90	05/22/18 12:28	05/23/18 14:40	1

### Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
1,2-Dichlorobenzene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
1,2-Diphenylhydrazine(as Azobenzene)	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
1,3-Dichlorobenzene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
1,4-Dichlorobenzene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,4,5-Trichlorophenol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,4,6-Trichlorophenol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,4-Dichlorophenol	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,4-Dimethylphenol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,4-Dinitrophenol	ND		42	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,4-Dinitrotoluene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,6-Dinitrotoluene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2-Chloronaphthalene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2-Chlorophenol	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2-Methylnaphthalene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2-Methylphenol	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2-Nitroaniline	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
2-Nitrophenol	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
3,3'-Dichlorobenzidine	ND		42	ug/L	05/22/18 14:38	05/24/18 17:56		1
3-Methylphenol + 4-Methylphenol	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
3-Nitroaniline	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
4,6-Dinitro-2-methylphenol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
4-Bromophenyl phenyl ether	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
4-Chloro-3-methylphenol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
4-Chloroaniline	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
4-Chlorophenyl phenyl ether	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
4-Nitroaniline	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
4-Nitrophenol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
Acenaphthene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Acenaphthylene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Aniline	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Anthracene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzidine	ND *		42	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzo[a]anthracene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzo[a]pyrene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzo[b]fluoranthene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzo[g,h,i]perylene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzo[k]fluoranthene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzoic acid	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzyl alcohol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
bis (2-chloroisopropyl) ether	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Bis(2-chloroethoxy)methane	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Bis(2-chloroethyl)ether	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Bis(2-ethylhexyl) phthalate	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
Butyl benzyl phthalate	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Client Sample ID: Grab

Date Collected: 05/18/18 08:10

Date Received: 05/18/18 14:45

## Lab Sample ID: 440-211591-2

Matrix: Water

### Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Dibenz(a,h)anthracene	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
Dibenzofuran	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Diethyl phthalate	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Dimethyl phthalate	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Di-n-butyl phthalate	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
Di-n-octyl phthalate	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
Fluoranthene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Fluorene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Hexachlorobenzene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Hexachlorobutadiene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Hexachlorocyclopentadiene	ND *		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
Hexachloroethane	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Indeno[1,2,3-cd]pyrene	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
Isophorone	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Naphthalene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Nitrobenzene	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
N-Nitrosodimethylamine	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
N-Nitrosodi-n-propylamine	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
N-Nitrosodiphenylamine	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Pentachlorophenol	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
Phenanthrene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Phenol	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Pyrene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
2,4,6-Tribromophenol (Surr)	95		40 - 120		05/22/18 14:38	05/24/18 17:56	1
2-Fluorobiphenyl	56		50 - 120		05/22/18 14:38	05/24/18 17:56	1
2-Fluorophenol (Surr)	75		30 - 120		05/22/18 14:38	05/24/18 17:56	1
Nitrobenzene-d5 (Surr)	83		45 - 120		05/22/18 14:38	05/24/18 17:56	1
Phenol-d6 (Surr)	78		35 - 120		05/22/18 14:38	05/24/18 17:56	1
Terphenyl-d14 (Surr)	97		10 - 150		05/22/18 14:38	05/24/18 17:56	1

### General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.7	HF	0.1	SU			05/20/18 14:02	1

### General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND	HF	0.050	mg/L		05/22/18 12:55	05/22/18 15:48	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	8.24			SU			05/18/18 08:10	1
Field Temperature	65.3			Fahrenheit			05/18/18 08:10	1

TestAmerica Irvine

# Surrogate Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-211454-A-6 MS	Matrix Spike	102	98	97	100
440-211454-A-6 MSD	Matrix Spike Duplicate	100	99	98	100
440-211591-2	Grab	100	90	100	97
440-211591-2	Grab	102	102	97	105
440-211591-2 - RA	Grab	104	92	102	96
440-211591-2 MS	Grab	99	89	98	96
440-211591-2 MSD	Grab	99	90	97	94
440-211786-A-1 MS	Matrix Spike	103	89	100	93
440-211786-A-1 MSD	Matrix Spike Duplicate	103	89	99	93
LCS 440-477486/5	Lab Control Sample	97	87	95	98
LCS 440-478012/6	Lab Control Sample	102	99	98	102
LCS 440-478275/10	Lab Control Sample	95	87	95	100
MB 440-477486/4	Method Blank	100	90	98	98
MB 440-478012/5	Method Blank	107	100	98	105
MB 440-478275/6	Method Blank	94	91	97	100

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (40-120)	FBP (50-120)	2FP (30-120)	NBZ (45-120)	PHL6 (35-120)	TPHL (10-150)
440-211591-2	Grab	95	56	75	83	78	97
LCS 440-477895/2-A	Lab Control Sample	90	77	74	81	76	91
LCSD 440-477895/3-A	Lab Control Sample Dup	98	78	66	77	70	101
MB 440-477895/1-A	Method Blank	79	71	66	74	68	88

### Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL6 = Phenol-d6 (Surr)

TPHL = Terphenyl-d14 (Surr)

## Method: 8270C SIM - 1,4 Dioxane by SIM

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DXE (36-90)	
440-211591-2	Grab	52	
LCS 440-477875/3-A	Lab Control Sample	60	
LCSD 440-477875/4-A	Lab Control Sample Dup	56	

TestAmerica Irvine

## **Surrogate Summary**

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## **Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)**

## **Matrix: Water**

### **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	DXE (36-90)	
MB 440-477875/1-A	Method Blank	66	

## Surrogate Legend

**DXE = 1,4-Dioxane-d8 (Surr)**

## Method Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	1,4 Dioxane by SIM	SW846	TAL IRV
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL IRV
SM 4500 H+ B	pH	SM	TAL IRV
SM 4500 S2 D	Sulfide, Total	SM	TAL IRV
SM 5220D	COD	SM	TAL IRV
Field Sampling	Field Sampling	EPA	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV
SM 4500 S2 B	Sulfide, Separation of Soluble and Insoluble	SM	TAL IRV

### Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# Lab Chronicle

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

**Client Sample ID: Composite**

**Lab Sample ID: 440-211591-1**

**Matrix: Water**

**Date Collected: 05/18/18 08:00**

**Date Received: 05/18/18 14:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	478185	05/23/18 15:33	HTL	TAL IRV
Total/NA	Analysis	SM 5220D		1	2.5 mL	2.5 mL	478438	05/24/18 15:37	KYP	TAL IRV

**Client Sample ID: Grab**

**Lab Sample ID: 440-211591-2**

**Matrix: Water**

**Date Collected: 05/18/18 08:10**

**Date Received: 05/18/18 14:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	477486	05/21/18 09:36	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	478275	05/24/18 12:55	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	478012	05/23/18 10:45	RM	TAL IRV
Total/NA	Prep	3520C			945 mL	2.0 mL	477895	05/22/18 14:38	JS1	TAL IRV
Total/NA	Analysis	8270C		1			478357	05/24/18 17:56	L1B	TAL IRV
Total/NA	Prep	3520C			960 mL	1.0 mL	477875	05/22/18 12:28	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			478024	05/23/18 14:40	HN	TAL IRV
Total/NA	Analysis	SM 4500 H+ B		1			477429	05/20/18 14:02	CMM	TAL IRV
Dissolved	Prep	SM 4500 S2 B			7.5 mL	7.5 mL	477882	05/22/18 12:55	KMY	TAL IRV
Dissolved	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	477923	05/22/18 15:48	KMY	TAL IRV
Total/NA	Analysis	Field Sampling		1			477468	05/18/18 08:10	PS	TAL IRV

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID:** MB 440-477486/4

**Matrix:** Water

**Analysis Batch:** 477486

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		5.0	ug/L			05/21/18 08:23	1
Acrylonitrile	ND		2.0	ug/L			05/21/18 08:23	1
2-Chloroethyl vinyl ether	ND		2.0	ug/L			05/21/18 08:23	1
Total Volatile Organic Compounds	ND		150	ug/L			05/21/18 08:23	1

Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		05/21/18 08:23	1
4-Bromofluorobenzene (Surr)	90		80 - 120		05/21/18 08:23	1
Dibromofluoromethane (Surr)	98		76 - 132		05/21/18 08:23	1
Toluene-d8 (Surr)	98		80 - 128		05/21/18 08:23	1

**Lab Sample ID:** LCS 440-477486/5

**Matrix:** Water

**Analysis Batch:** 477486

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
Acrolein	25.0	17.7		ug/L		71	10 - 145
Acrylonitrile	250	227		ug/L		91	48 - 140
2-Chloroethyl vinyl ether	25.0	22.2		ug/L		89	37 - 150

Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	97		70 - 130				
4-Bromofluorobenzene (Surr)	87		80 - 120				
Dibromofluoromethane (Surr)	95		76 - 132				
Toluene-d8 (Surr)	98		80 - 128				

**Lab Sample ID:** 440-211591-2 MS

**Matrix:** Water

**Analysis Batch:** 477486

**Client Sample ID:** Grab  
**Prep Type:** Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.
Acrolein	ND		25.0	14.5		ug/L		58	10 - 147
Acrylonitrile	ND		250	196		ug/L		79	38 - 144
2-Chloroethyl vinyl ether	ND		25.0	21.6		ug/L		86	10 - 140

Surrogate	%Recovery	MS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	99		70 - 130				
4-Bromofluorobenzene (Surr)	89		80 - 120				
Dibromofluoromethane (Surr)	98		76 - 132				
Toluene-d8 (Surr)	96		80 - 128				

**Lab Sample ID:** 440-211591-2 MSD

**Matrix:** Water

**Analysis Batch:** 477486

**Client Sample ID:** Grab  
**Prep Type:** Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	RPD
Acrolein	ND		25.0	12.8		ug/L		51	10 - 147

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-211591-2 MSD**

**Matrix: Water**

**Analysis Batch: 477486**

**Client Sample ID: Grab**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec.	Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
Acrylonitrile	ND		250	184		ug/L	74	38 - 144	6	40	
2-Chloroethyl vinyl ether	ND		25.0	21.5		ug/L	86	10 - 140	1	35	
<b>Surrogate</b>											
1,2-Dichloroethane-d4 (Surr)	99			70 - 130							
4-Bromofluorobenzene (Surr)	90			80 - 120							
Dibromofluoromethane (Surr)	97			76 - 132							
Toluene-d8 (Surr)	94			80 - 128							

**Lab Sample ID: MB 440-478012/5**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			05/23/18 08:47	1
1,1,1-Trichloroethane	ND		1.0	ug/L			05/23/18 08:47	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			05/23/18 08:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			05/23/18 08:47	1
1,1,2-Trichloroethane	ND		1.0	ug/L			05/23/18 08:47	1
1,1-Dichloroethane	ND		1.0	ug/L			05/23/18 08:47	1
1,1-Dichloroethene	ND		1.0	ug/L			05/23/18 08:47	1
1,1-Dichloropropene	ND		1.0	ug/L			05/23/18 08:47	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			05/23/18 08:47	1
1,2,3-Trichloropropane	ND		1.0	ug/L			05/23/18 08:47	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			05/23/18 08:47	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			05/23/18 08:47	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			05/23/18 08:47	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			05/23/18 08:47	1
1,2-Dichlorobenzene	ND		1.0	ug/L			05/23/18 08:47	1
1,2-Dichloroethane	ND		1.0	ug/L			05/23/18 08:47	1
1,2-Dichloropropane	ND		1.0	ug/L			05/23/18 08:47	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			05/23/18 08:47	1
1,3-Dichlorobenzene	ND		1.0	ug/L			05/23/18 08:47	1
1,3-Dichloropropane	ND		1.0	ug/L			05/23/18 08:47	1
1,4-Dichlorobenzene	ND		1.0	ug/L			05/23/18 08:47	1
2,2-Dichloropropane	ND		1.0	ug/L			05/23/18 08:47	1
2-Chlorotoluene	ND		1.0	ug/L			05/23/18 08:47	1
4-Chlorotoluene	ND		1.0	ug/L			05/23/18 08:47	1
Acetone	ND		10	ug/L			05/23/18 08:47	1
Benzene	ND		0.50	ug/L			05/23/18 08:47	1
Bromobenzene	ND		1.0	ug/L			05/23/18 08:47	1
Bromochloromethane	ND		1.0	ug/L			05/23/18 08:47	1
Bromodichloromethane	ND		1.0	ug/L			05/23/18 08:47	1
Bromoform	ND		1.0	ug/L			05/23/18 08:47	1
Bromomethane	ND		1.0	ug/L			05/23/18 08:47	1
Carbon tetrachloride	ND		0.50	ug/L			05/23/18 08:47	1
Chlorobenzene	ND		1.0	ug/L			05/23/18 08:47	1
Chloroethane	ND		1.0	ug/L			05/23/18 08:47	1

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID:** MB 440-478012/5

**Matrix:** Water

**Analysis Batch:** 478012

**Client Sample ID:** Method Blank

**Prep Type:** Total/NA

Analyte	MB	MB	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND				1.0	ug/L		05/23/18 08:47		1
Chloromethane	ND				1.0	ug/L		05/23/18 08:47		1
cis-1,2-Dichloroethene	ND				1.0	ug/L		05/23/18 08:47		1
cis-1,3-Dichloropropene	ND				0.50	ug/L		05/23/18 08:47		1
Dibromochloromethane	ND				1.0	ug/L		05/23/18 08:47		1
Dibromomethane	ND				1.0	ug/L		05/23/18 08:47		1
Dichlorodifluoromethane	ND				1.0	ug/L		05/23/18 08:47		1
Ethylbenzene	ND				1.0	ug/L		05/23/18 08:47		1
Hexachlorobutadiene	ND				1.0	ug/L		05/23/18 08:47		1
Isopropyl alcohol	ND				250	ug/L		05/23/18 08:47		1
Isopropylbenzene	ND				1.0	ug/L		05/23/18 08:47		1
m,p-Xylene	ND				1.0	ug/L		05/23/18 08:47		1
Methylene Chloride	ND				5.0	ug/L		05/23/18 08:47		1
Methyl-t-Butyl Ether (MTBE)	ND				1.0	ug/L		05/23/18 08:47		1
Naphthalene	ND				1.0	ug/L		05/23/18 08:47		1
n-Butylbenzene	ND				1.0	ug/L		05/23/18 08:47		1
N-Propylbenzene	ND				1.0	ug/L		05/23/18 08:47		1
o-Xylene	ND				1.0	ug/L		05/23/18 08:47		1
p-Isopropyltoluene	ND				1.0	ug/L		05/23/18 08:47		1
sec-Butylbenzene	ND				1.0	ug/L		05/23/18 08:47		1
Styrene	ND				1.0	ug/L		05/23/18 08:47		1
tert-Butylbenzene	ND				1.0	ug/L		05/23/18 08:47		1
Tetrachloroethene	ND				1.0	ug/L		05/23/18 08:47		1
Toluene	ND				1.0	ug/L		05/23/18 08:47		1
trans-1,2-Dichloroethene	ND				1.0	ug/L		05/23/18 08:47		1
trans-1,3-Dichloropropene	ND				0.50	ug/L		05/23/18 08:47		1
Trichloroethene	ND				1.0	ug/L		05/23/18 08:47		1
Trichlorofluoromethane	ND				1.0	ug/L		05/23/18 08:47		1
Vinyl chloride	ND				0.50	ug/L		05/23/18 08:47		1

Surrogate	MB	MB	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		107		70 - 130			05/23/18 08:47	1
4-Bromofluorobenzene (Surr)	100		100		80 - 120			05/23/18 08:47	1
Dibromofluoromethane (Surr)	98		98		76 - 132			05/23/18 08:47	1
Toluene-d8 (Surr)	105		105		80 - 128			05/23/18 08:47	1

**Lab Sample ID:** LCS 440-478012/6

**Matrix:** Water

**Analysis Batch:** 478012

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	Limits	%Rec.
	Added									
1,1,1,2-Tetrachloroethane	25.0		28.2			ug/L		113	60 - 141	
1,1,1-Trichloroethane	25.0		28.2			ug/L		113	70 - 130	
1,1,2,2-Tetrachloroethane	25.0		25.9			ug/L		104	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0		28.3			ug/L		113	60 - 140	
1,1,2-Trichloroethane	25.0		27.2			ug/L		109	70 - 130	
1,1-Dichloroethane	25.0		26.8			ug/L		107	64 - 130	

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-478012/6**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
1,1-Dichloroethene	25.0	28.4		ug/L		114	70 - 130	
1,1-Dichloropropene	25.0	28.9		ug/L		116	70 - 130	
1,2,3-Trichlorobenzene	25.0	27.3		ug/L		109	60 - 140	
1,2,3-Trichloropropane	25.0	26.3		ug/L		105	63 - 130	
1,2,4-Trichlorobenzene	25.0	26.6		ug/L		106	60 - 140	
1,2,4-Trimethylbenzene	25.0	28.2		ug/L		113	70 - 135	
1,2-Dibromo-3-Chloropropane	25.0	26.6		ug/L		106	52 - 140	
1,2-Dibromoethane (EDB)	25.0	27.0		ug/L		108	70 - 130	
1,2-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130	
1,2-Dichloroethane	25.0	27.4		ug/L		110	57 - 138	
1,2-Dichloropropane	25.0	27.0		ug/L		108	67 - 130	
1,3,5-Trimethylbenzene	25.0	28.6		ug/L		114	70 - 136	
1,3-Dichlorobenzene	25.0	26.2		ug/L		105	70 - 130	
1,3-Dichloropropane	25.0	26.6		ug/L		106	70 - 130	
1,4-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130	
2,2-Dichloropropane	25.0	27.4		ug/L		110	68 - 141	
2-Chlorotoluene	25.0	27.1		ug/L		108	70 - 130	
4-Chlorotoluene	25.0	27.7		ug/L		111	70 - 130	
Acetone	25.0	27.7		ug/L		111	10 - 150	
Benzene	25.0	26.5		ug/L		106	68 - 130	
Bromobenzene	25.0	26.1		ug/L		104	70 - 130	
Bromochloromethane	25.0	26.0		ug/L		104	70 - 130	
Bromodichloromethane	25.0	26.5		ug/L		106	70 - 132	
Bromoform	25.0	26.6		ug/L		106	60 - 148	
Bromomethane	25.0	27.2		ug/L		109	64 - 139	
Carbon tetrachloride	25.0	28.8		ug/L		115	60 - 150	
Chlorobenzene	25.0	26.0		ug/L		104	70 - 130	
Chloroethane	25.0	28.7		ug/L		115	64 - 135	
Chloroform	25.0	26.9		ug/L		108	70 - 130	
Chloromethane	25.0	23.5		ug/L		94	47 - 140	
cis-1,2-Dichloroethene	25.0	27.0		ug/L		108	70 - 133	
cis-1,3-Dichloropropene	25.0	29.2		ug/L		117	70 - 133	
Dibromochloromethane	25.0	28.2		ug/L		113	69 - 145	
Dibromomethane	25.0	26.1		ug/L		104	70 - 130	
Dichlorodifluoromethane	25.0	21.8		ug/L		87	29 - 150	
Ethylbenzene	25.0	27.3		ug/L		109	70 - 130	
Hexachlorobutadiene	25.0	27.7		ug/L		111	10 - 150	
Isopropylbenzene	25.0	28.7		ug/L		115	70 - 136	
m,p-Xylene	25.0	28.4		ug/L		114	70 - 130	
Methylene Chloride	25.0	25.7		ug/L		103	52 - 130	
Methyl-t-Butyl Ether (MTBE)	25.0	24.7		ug/L		99	63 - 131	
Naphthalene	25.0	24.9		ug/L		100	60 - 140	
n-Butylbenzene	25.0	28.6		ug/L		114	65 - 150	
N-Propylbenzene	25.0	28.5		ug/L		114	67 - 139	
o-Xylene	25.0	28.7		ug/L		115	70 - 130	
p-Isopropyltoluene	25.0	27.4		ug/L		110	70 - 132	
sec-Butylbenzene	25.0	28.5		ug/L		114	70 - 138	
Styrene	25.0	27.9		ug/L		111	70 - 134	

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-478012/6**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				
tert-Butylbenzene	25.0	28.0		ug/L		112	70 - 130
Tetrachloroethene	25.0	27.5		ug/L		110	70 - 130
Toluene	25.0	27.4		ug/L		110	70 - 130
trans-1,2-Dichloroethene	25.0	27.8		ug/L		111	70 - 130
trans-1,3-Dichloropropene	25.0	28.2		ug/L		113	70 - 132
Trichloroethene	25.0	26.8		ug/L		107	70 - 130
Trichlorofluoromethane	25.0	28.7		ug/L		115	60 - 150
Vinyl chloride	25.0	27.5		ug/L		110	59 - 133
<hr/>							
Surrogate	LCS	LCS	Limits	Unit	D	%Rec	%Rec.
	%Recovery	Qualifier					
1,2-Dichloroethane-d4 (Surr)	102		70 - 130				
4-Bromofluorobenzene (Surr)	99		80 - 120				
Dibromofluoromethane (Surr)	98		76 - 132				
Toluene-d8 (Surr)	102		80 - 128				

**Lab Sample ID: 440-211454-A-6 MS**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
1,1,1,2-Tetrachloroethane	ND		25.0	27.1		ug/L		108	60 - 149
1,1,1-Trichloroethane	ND		25.0	27.6		ug/L		111	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	26.4		ug/L		106	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	27.5		ug/L		110	60 - 140
1,1,2-Trichloroethane	ND		25.0	26.5		ug/L		106	70 - 130
1,1-Dichloroethane	ND		25.0	26.8		ug/L		107	65 - 130
1,1-Dichloroethene	ND		25.0	27.2		ug/L		109	70 - 130
1,1-Dichloropropene	ND		25.0	28.2		ug/L		113	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	27.3		ug/L		109	60 - 140
1,2,3-Trichloropropane	ND		25.0	26.4		ug/L		106	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	26.4		ug/L		106	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	27.4		ug/L		110	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	27.6		ug/L		111	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	26.3		ug/L		105	70 - 131
1,2-Dichlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130
1,2-Dichloroethane	ND		25.0	26.8		ug/L		107	56 - 146
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	28.0		ug/L		112	70 - 130
1,3-Dichlorobenzene	ND		25.0	26.3		ug/L		105	70 - 130
1,3-Dichloropropane	ND		25.0	26.5		ug/L		106	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.9		ug/L		104	70 - 130
2,2-Dichloropropane	ND		25.0	28.3		ug/L		113	69 - 138
2-Chlorotoluene	ND		25.0	26.7		ug/L		107	70 - 130
4-Chlorotoluene	ND		25.0	27.3		ug/L		109	70 - 130
Acetone	ND		25.0	28.7		ug/L		115	10 - 150
Benzene	ND		25.0	26.2		ug/L		105	66 - 130
Bromobenzene	ND		25.0	25.9		ug/L		104	70 - 130

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-211454-A-6 MS**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
Bromochloromethane	ND		25.0	26.1		ug/L		104	70 - 130
Bromodichloromethane	ND		25.0	26.1		ug/L		104	70 - 138
Bromoform	ND		25.0	26.3		ug/L		105	59 - 150
Bromomethane	ND		25.0	26.7		ug/L		107	62 - 131
Carbon tetrachloride	ND		25.0	28.4		ug/L		114	60 - 150
Chlorobenzene	ND		25.0	25.2		ug/L		101	70 - 130
Chloroethane	ND		25.0	27.9		ug/L		112	68 - 130
Chloroform	ND		25.0	26.6		ug/L		106	70 - 130
Chloromethane	ND		25.0	22.6		ug/L		91	39 - 144
cis-1,2-Dichloroethene	ND		25.0	26.7		ug/L		107	70 - 130
cis-1,3-Dichloropropene	ND		25.0	27.3		ug/L		109	70 - 133
Dibromochloromethane	ND		25.0	27.2		ug/L		109	70 - 148
Dibromomethane	ND		25.0	26.0		ug/L		104	70 - 130
Dichlorodifluoromethane	ND		25.0	21.7		ug/L		87	25 - 142
Ethylbenzene	ND		25.0	26.3		ug/L		105	70 - 130
Hexachlorobutadiene	ND		25.0	26.9		ug/L		108	10 - 150
Isopropylbenzene	ND		25.0	27.4		ug/L		110	70 - 132
m,p-Xylene	ND		25.0	27.4		ug/L		110	70 - 133
Methylene Chloride	ND		25.0	26.4		ug/L		100	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.5		ug/L		98	70 - 130
Naphthalene	ND		25.0	25.3		ug/L		101	60 - 140
n-Butylbenzene	ND		25.0	28.1		ug/L		113	61 - 149
N-Propylbenzene	ND		25.0	28.1		ug/L		112	66 - 135
o-Xylene	ND		25.0	26.9		ug/L		108	70 - 133
p-Isopropyltoluene	ND		25.0	27.3		ug/L		109	70 - 130
sec-Butylbenzene	ND		25.0	28.0		ug/L		112	67 - 134
Styrene	ND	F2 F1	25.0	2.28	F1	ug/L		9	29 - 150
tert-Butylbenzene	ND		25.0	27.5		ug/L		110	70 - 130
Tetrachloroethene	ND		25.0	26.8		ug/L		107	70 - 137
Toluene	ND		25.0	26.7		ug/L		107	70 - 130
trans-1,2-Dichloroethene	ND		25.0	27.7		ug/L		111	70 - 130
trans-1,3-Dichloropropene	ND		25.0	27.2		ug/L		109	70 - 138
Trichloroethene	ND		25.0	26.4		ug/L		106	70 - 130
Trichlorofluoromethane	ND		25.0	28.2		ug/L		113	60 - 150
Vinyl chloride	ND		25.0	27.3		ug/L		109	50 - 137
<b>Surrogate</b>		<b>MS</b>	<b>MS</b>						
		<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>				
1,2-Dichloroethane-d4 (Surr)		102			70 - 130				
4-Bromofluorobenzene (Surr)		98			80 - 120				
Dibromofluoromethane (Surr)		97			76 - 132				
Toluene-d8 (Surr)		100			80 - 128				

**Lab Sample ID: 440-211454-A-6 MSD**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
1,1,1,2-Tetrachloroethane	ND		25.0	26.7		ug/L		107	60 - 149

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-211454-A-6 MSD**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1,1-Trichloroethane	ND		25.0	27.8		ug/L	111	70 - 130	1	20	
1,1,2,2-Tetrachloroethane	ND		25.0	25.4		ug/L	101	63 - 130	4	30	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	28.0		ug/L	112	60 - 140	2	20	
1,1,2-Trichloroethane	ND		25.0	25.2		ug/L	101	70 - 130	5	25	
1,1-Dichloroethane	ND		25.0	26.3		ug/L	105	65 - 130	2	20	
1,1-Dichloroethene	ND		25.0	27.4		ug/L	110	70 - 130	1	20	
1,1-Dichloropropene	ND		25.0	28.5		ug/L	114	64 - 130	1	20	
1,2,3-Trichlorobenzene	ND		25.0	27.5		ug/L	110	60 - 140	1	20	
1,2,3-Trichloropropane	ND		25.0	26.2		ug/L	105	60 - 130	1	30	
1,2,4-Trichlorobenzene	ND		25.0	26.7		ug/L	107	60 - 140	1	20	
1,2,4-Trimethylbenzene	ND		25.0	27.6		ug/L	110	70 - 130	1	25	
1,2-Dibromo-3-Chloropropane	ND		25.0	25.8		ug/L	103	48 - 140	7	30	
1,2-Dibromoethane (EDB)	ND		25.0	25.7		ug/L	103	70 - 131	2	25	
1,2-Dichlorobenzene	ND		25.0	25.6		ug/L	102	70 - 130	0	20	
1,2-Dichloroethane	ND		25.0	26.2		ug/L	105	56 - 146	2	20	
1,2-Dichloropropane	ND		25.0	26.3		ug/L	105	69 - 130	1	20	
1,3,5-Trimethylbenzene	ND		25.0	28.0		ug/L	112	70 - 130	0	20	
1,3-Dichlorobenzene	ND		25.0	25.8		ug/L	103	70 - 130	2	20	
1,3-Dichloropropane	ND		25.0	25.5		ug/L	102	70 - 130	4	25	
1,4-Dichlorobenzene	ND		25.0	25.6		ug/L	102	70 - 130	1	20	
2,2-Dichloropropane	ND		25.0	27.1		ug/L	109	69 - 138	4	25	
2-Chlorotoluene	ND		25.0	26.7		ug/L	107	70 - 130	0	20	
4-Chlorotoluene	ND		25.0	26.8		ug/L	107	70 - 130	2	20	
Acetone	ND		25.0	29.2		ug/L	117	10 - 150	2	35	
Benzene	ND		25.0	26.0		ug/L	104	66 - 130	1	20	
Bromobenzene	ND		25.0	25.6		ug/L	102	70 - 130	1	20	
Bromochloromethane	ND		25.0	25.3		ug/L	101	70 - 130	3	25	
Bromodichloromethane	ND		25.0	25.9		ug/L	104	70 - 138	1	20	
Bromoform	ND		25.0	25.3		ug/L	101	59 - 150	4	25	
Bromomethane	ND		25.0	26.9		ug/L	108	62 - 131	1	25	
Carbon tetrachloride	ND		25.0	28.7		ug/L	115	60 - 150	1	25	
Chlorobenzene	ND		25.0	25.0		ug/L	100	70 - 130	1	20	
Chloroethane	ND		25.0	28.3		ug/L	113	68 - 130	1	25	
Chloroform	ND		25.0	26.2		ug/L	105	70 - 130	1	20	
Chloromethane	ND		25.0	23.3		ug/L	93	39 - 144	3	25	
cis-1,2-Dichloroethene	ND		25.0	26.2		ug/L	105	70 - 130	2	20	
cis-1,3-Dichloropropene	ND		25.0	27.0		ug/L	108	70 - 133	1	20	
Dibromochloromethane	ND		25.0	27.0		ug/L	108	70 - 148	1	25	
Dibromomethane	ND		25.0	25.5		ug/L	102	70 - 130	2	25	
Dichlorodifluoromethane	ND		25.0	22.5		ug/L	90	25 - 142	3	30	
Ethylbenzene	ND		25.0	26.4		ug/L	106	70 - 130	1	20	
Hexachlorobutadiene	ND		25.0	27.5		ug/L	110	10 - 150	2	20	
Isopropylbenzene	ND		25.0	27.7		ug/L	111	70 - 132	1	20	
m,p-Xylene	ND		25.0	27.9		ug/L	111	70 - 133	2	25	
Methylene Chloride	ND		25.0	26.3		ug/L	100	52 - 130	0	20	
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.1		ug/L	96	70 - 130	1	25	
Naphthalene	ND		25.0	25.5		ug/L	102	60 - 140	1	30	

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-211454-A-6 MSD**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
n-Butylbenzene	ND		25.0	28.7		ug/L		115	61 - 149	2	20
N-Propylbenzene	ND		25.0	28.3		ug/L		113	66 - 135	1	20
o-Xylene	ND		25.0	27.0		ug/L		108	70 - 133	0	20
p-Isopropyltoluene	ND		25.0	27.5		ug/L		110	70 - 130	1	20
sec-Butylbenzene	ND		25.0	28.4		ug/L		114	67 - 134	2	20
Styrene	ND	F2 F1	25.0	ND	F2 F1	ug/L		4	29 - 150	84	35
tert-Butylbenzene	ND		25.0	28.0		ug/L		112	70 - 130	2	20
Tetrachloroethene	ND		25.0	27.0		ug/L		108	70 - 137	1	20
Toluene	ND		25.0	26.3		ug/L		105	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	27.5		ug/L		110	70 - 130	1	20
trans-1,3-Dichloropropene	ND		25.0	26.5		ug/L		106	70 - 138	3	25
Trichloroethene	ND		25.0	26.4		ug/L		106	70 - 130	0	20
Trichlorofluoromethane	ND		25.0	28.3		ug/L		113	60 - 150	0	25
Vinyl chloride	ND		25.0	27.8		ug/L		111	50 - 137	2	30
<b>Surrogate</b>											
	<b>MSD</b>	<b>MSD</b>									
	<b>%Recovery</b>	<b>Qualifier</b>			<b>Limits</b>						
1,2-Dichloroethane-d4 (Surr)	100				70 - 130						
4-Bromofluorobenzene (Surr)	99				80 - 120						
Dibromofluoromethane (Surr)	98				76 - 132						
Toluene-d8 (Surr)	100				80 - 128						

**Lab Sample ID: MB 440-478275/6**

**Matrix: Water**

**Analysis Batch: 478275**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Acetone	ND		10	ug/L			05/24/18 10:28	1
Isopropyl alcohol	ND		250	ug/L			05/24/18 10:28	1
<b>Surrogate</b>								
	<b>MB</b>	<b>MB</b>						
	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>				
1,2-Dichloroethane-d4 (Surr)	94			70 - 130			05/24/18 10:28	1
4-Bromofluorobenzene (Surr)	91			80 - 120			05/24/18 10:28	1
Dibromofluoromethane (Surr)	97			76 - 132			05/24/18 10:28	1
Toluene-d8 (Surr)	100			80 - 128			05/24/18 10:28	1

**Lab Sample ID: LCS 440-478275/10**

**Matrix: Water**

**Analysis Batch: 478275**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits
	Added	Result	Qualifier				
Acetone	25.0	23.1		ug/L		93	10 - 150
<b>Surrogate</b>							
	<b>LCS</b>	<b>LCS</b>					
	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			
1,2-Dichloroethane-d4 (Surr)	95			70 - 130			
4-Bromofluorobenzene (Surr)	87			80 - 120			
Dibromofluoromethane (Surr)	95			76 - 132			
Toluene-d8 (Surr)	100			80 - 128			

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-211786-A-1 MS**

**Matrix: Water**

**Analysis Batch: 478275**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		25.0	17.5		ug/L		70	10 - 150
<b>Surrogate</b>									
1,2-Dichloroethane-d4 (Surr)									
	103			70 - 130					
4-Bromofluorobenzene (Surr)									
	89			80 - 120					
Dibromofluoromethane (Surr)									
	100			76 - 132					
Toluene-d8 (Surr)									
	93			80 - 128					

**Lab Sample ID: 440-211786-A-1 MSD**

**Matrix: Water**

**Analysis Batch: 478275**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		25.0	18.8		ug/L		75	10 - 150	7	35
<b>Surrogate</b>											
1,2-Dichloroethane-d4 (Surr)											
	103			70 - 130							
4-Bromofluorobenzene (Surr)											
	89			80 - 120							
Dibromofluoromethane (Surr)											
	99			76 - 132							
Toluene-d8 (Surr)											
	93			80 - 128							

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-477895/1-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

**Prep Batch: 477895**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
1,2-Dichlorobenzene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		20	ug/L		05/22/18 14:38	05/24/18 14:02	1
1,3-Dichlorobenzene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
1,4-Dichlorobenzene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,4,5-Trichlorophenol	ND		20	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,4,6-Trichlorophenol	ND		20	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,4-Dichlorophenol	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,4-Dimethylphenol	ND		20	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,4-Dinitrophenol	ND		39	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,4-Dinitrotoluene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,6-Dinitrotoluene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2-Chloronaphthalene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2-Chlorophenol	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2-Methylnaphthalene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2-Methylphenol	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2-Nitroaniline	ND		20	ug/L		05/22/18 14:38	05/24/18 14:02	1
2-Nitrophenol	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-477895/1-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 477895**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	ND		39	ug/L	05/22/18 14:38	05/24/18 14:02		1
3-Methylphenol + 4-Methylphenol	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
3-Nitroaniline	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
4,6-Dinitro-2-methylphenol	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
4-Bromophenyl phenyl ether	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
4-Chloro-3-methylphenol	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
4-Chloroaniline	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
4-Chlorophenyl phenyl ether	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
4-Nitroaniline	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
4-Nitrophenol	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Acenaphthene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Acenaphthylene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Aniline	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Anthracene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzidine	ND		39	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzo[a]anthracene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzo[a]pyrene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzo[b]fluoranthene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzo[g,h,i]perylene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzo[k]fluoranthene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzoic acid	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzyl alcohol	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
bis (2-chloroisopropyl) ether	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Bis(2-chloroethoxy)methane	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Bis(2-chloroethyl)ether	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Bis(2-ethylhexyl) phthalate	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Butyl benzyl phthalate	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Chrysene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Dibenz(a,h)anthracene	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Dibenzofuran	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Diethyl phthalate	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Dimethyl phthalate	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Di-n-butyl phthalate	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Di-n-octyl phthalate	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Fluoranthene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Fluorene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Hexachlorobenzene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Hexachlorobutadiene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Hexachlorocyclopentadiene	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Hexachloroethane	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Indeno[1,2,3-cd]pyrene	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Isophorone	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Naphthalene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Nitrobenzene	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
N-Nitrosodimethylamine	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
N-Nitrosodi-n-propylamine	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
N-Nitrosodiphenylamine	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Pentachlorophenol	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-477895/1-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 477895**

Analyte	MB		RL	Unit	D	Prepared		Analyzed	Dil Fac
	Result	Qualifier				Prepared	Analyzed		
Phenanthrene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02		1
Phenol	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02		1
Pyrene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02		1

Surrogate	MB		Limits	Prepared		Dil Fac
	%Recovery	Qualifier		Prepared	Analyzed	
2,4,6-Tribromophenol (Surr)	79		40 - 120	05/22/18 14:38	05/24/18 14:02	1
2-Fluorobiphenyl	71		50 - 120	05/22/18 14:38	05/24/18 14:02	1
2-Fluorophenol (Surr)	66		30 - 120	05/22/18 14:38	05/24/18 14:02	1
Nitrobenzene-d5 (Surr)	74		45 - 120	05/22/18 14:38	05/24/18 14:02	1
Phenol-d6 (Surr)	68		35 - 120	05/22/18 14:38	05/24/18 14:02	1
Terphenyl-d14 (Surr)	88		10 - 150	05/22/18 14:38	05/24/18 14:02	1

**Lab Sample ID: LCS 440-477895/2-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 477895**

Analyte	Spike		LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	
	Added	Result							
1,2,4-Trichlorobenzene	97.1	69.3	ug/L	71	25 - 84				
1,2-Dichlorobenzene	97.1	69.6	ug/L	72	24 - 85				
1,2-Diphenylhydrazine(as Azobenzene)	97.1	87.1	ug/L	90	44 - 113				
1,3-Dichlorobenzene	97.1	67.2	ug/L	69	20 - 80				
1,4-Dichlorobenzene	97.1	69.0	ug/L	71	22 - 81				
2,4,5-Trichlorophenol	97.1	86.1	ug/L	89	24 - 121				
2,4,6-Trichlorophenol	97.1	92.4	ug/L	95	20 - 121				
2,4-Dichlorophenol	97.1	80.1	ug/L	83	23 - 113				
2,4-Dimethylphenol	97.1	81.4	ug/L	84	39 - 94				
2,4-Dinitrophenol	194	154	ug/L	79	23 - 134				
2,4-Dinitrotoluene	97.1	85.8	ug/L	88	54 - 115				
2,6-Dinitrotoluene	97.1	87.1	ug/L	90	50 - 115				
2-Chloronaphthalene	97.1	83.2	ug/L	86	34 - 102				
2-Chlorophenol	97.1	78.2	ug/L	81	20 - 106				
2-Methylnaphthalene	97.1	79.2	ug/L	82	34 - 98				
2-Methylphenol	97.1	82.4	ug/L	85	36 - 103				
2-Nitroaniline	97.1	90.5	ug/L	93	48 - 111				
2-Nitrophenol	97.1	81.2	ug/L	84	20 - 117				
3,3'-Dichlorobenzidine	97.1	74.6	ug/L	77	22 - 97				
3-Methylphenol + 4-Methylphenol	97.1	86.3	ug/L	89	35 - 106				
3-Nitroaniline	97.1	71.4	ug/L	74	51 - 116				
4,6-Dinitro-2-methylphenol	194	181	ug/L	93	28 - 139				
4-Bromophenyl phenyl ether	97.1	90.1	ug/L	93	42 - 113				
4-Chloro-3-methylphenol	97.1	87.1	ug/L	90	44 - 110				
4-Chloroaniline	97.1	80.8	ug/L	83	42 - 109				
4-Chlorophenyl phenyl ether	97.1	92.3	ug/L	95	38 - 115				
4-Nitroaniline	97.1	85.9	ug/L	88	50 - 116				
4-Nitrophenol	194	170	ug/L	88	26 - 132				
Acenaphthene	97.1	87.3	ug/L	90	37 - 107				
Acenaphthylene	97.1	92.9	ug/L	96	39 - 107				

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-477895/2-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 477895**

**%Rec.**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aniline	97.1	91.5		ug/L	94	27 - 115	
Anthracene	97.1	90.4		ug/L	93	42 - 120	
Benzidine	97.1	133		ug/L	137	5 - 150	
Benzo[a]anthracene	97.1	99.6		ug/L	103	42 - 115	
Benzo[a]pyrene	97.1	87.3		ug/L	90	41 - 117	
Benzo[b]fluoranthene	97.1	87.9		ug/L	90	36 - 113	
Benzo[g,h,i]perylene	97.1	92.5		ug/L	95	37 - 115	
Benzo[k]fluoranthene	97.1	88.3		ug/L	91	42 - 122	
Benzoic acid	97.1	68.9		ug/L	71	15 - 121	
Benzyl alcohol	97.1	71.3		ug/L	73	39 - 106	
bis (2-chloroisopropyl) ether	97.1	85.3		ug/L	88	38 - 104	
Bis(2-chloroethoxy)methane	97.1	81.4		ug/L	84	47 - 104	
Bis(2-chloroethyl)ether	97.1	79.8		ug/L	82	42 - 99	
Bis(2-ethylhexyl) phthalate	97.1	104		ug/L	107	43 - 124	
Butyl benzyl phthalate	97.1	97.7		ug/L	101	44 - 122	
Chrysene	97.1	104		ug/L	108	42 - 118	
Dibenz(a,h)anthracene	97.1	89.8		ug/L	92	40 - 114	
Dibenzofuran	97.1	87.1		ug/L	90	37 - 113	
Diethyl phthalate	97.1	88.5		ug/L	91	51 - 120	
Dimethyl phthalate	97.1	86.0		ug/L	89	49 - 113	
Di-n-butyl phthalate	97.1	88.7		ug/L	91	47 - 125	
Di-n-octyl phthalate	97.1	95.7		ug/L	99	42 - 125	
Fluoranthene	97.1	93.5		ug/L	96	44 - 119	
Fluorene	97.1	91.3		ug/L	94	39 - 116	
Hexachlorobenzene	97.1	92.9		ug/L	96	43 - 112	
Hexachlorobutadiene	97.1	64.6		ug/L	67	14 - 77	
Hexachlorocyclopentadiene	97.1	78.3 *		ug/L	81	10 - 77	
Hexachloroethane	97.1	60.9		ug/L	63	13 - 75	
Indeno[1,2,3-cd]pyrene	97.1	89.1		ug/L	92	35 - 116	
Isophorone	97.1	90.4		ug/L	93	48 - 107	
Naphthalene	97.1	76.6		ug/L	79	33 - 95	
Nitrobenzene	97.1	83.7		ug/L	86	42 - 99	
N-Nitrosodimethylamine	97.1	85.5		ug/L	88	35 - 96	
N-Nitrosodi-n-propylamine	97.1	86.8		ug/L	89	44 - 111	
N-Nitrosodiphenylamine	97.1	87.3		ug/L	90	46 - 116	
Pentachlorophenol	194	157		ug/L	81	26 - 136	
Phenanthrene	97.1	91.1		ug/L	94	43 - 120	
Phenol	97.1	78.1		ug/L	80	25 - 99	
Pyrene	97.1	105		ug/L	109	43 - 119	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	90		40 - 120
2-Fluorobiphenyl	77		50 - 120
2-Fluorophenol (Surr)	74		30 - 120
Nitrobenzene-d5 (Surr)	81		45 - 120
Phenol-d6 (Surr)	76		35 - 120
Terphenyl-d14 (Surr)	91		10 - 150

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 440-477895/3-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 477895**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	98.0	61.1		ug/L	62	25 - 84	13	35	
1,2-Dichlorobenzene	98.0	60.6		ug/L	62	24 - 85	14	35	
1,2-Diphenylhydrazine(as Azobenzene)	98.0	90.1		ug/L	92	44 - 113	3	35	
1,3-Dichlorobenzene	98.0	58.0		ug/L	59	20 - 80	15	35	
1,4-Dichlorobenzene	98.0	58.4		ug/L	60	22 - 81	17	35	
2,4,5-Trichlorophenol	98.0	93.5		ug/L	95	24 - 121	8	35	
2,4,6-Trichlorophenol	98.0	96.0		ug/L	98	20 - 121	4	35	
2,4-Dichlorophenol	98.0	79.3		ug/L	81	23 - 113	1	35	
2,4-Dimethylphenol	98.0	80.2		ug/L	82	39 - 94	2	35	
2,4-Dinitrophenol	196	176		ug/L	90	23 - 134	13	35	
2,4-Dinitrotoluene	98.0	95.7		ug/L	98	54 - 115	11	35	
2,6-Dinitrotoluene	98.0	92.6		ug/L	94	50 - 115	6	35	
2-Chloronaphthalene	98.0	84.4		ug/L	86	34 - 102	1	35	
2-Chlorophenol	98.0	74.5		ug/L	76	20 - 106	5	35	
2-Methylnaphthalene	98.0	74.9		ug/L	76	34 - 98	6	35	
2-Methylphenol	98.0	80.6		ug/L	82	36 - 103	2	35	
2-Nitroaniline	98.0	94.1		ug/L	96	48 - 111	4	35	
2-Nitrophenol	98.0	79.0		ug/L	81	20 - 117	3	35	
3,3'-Dichlorobenzidine	98.0	83.9		ug/L	86	22 - 97	12	35	
3-Methylphenol + 4-Methylphenol	98.0	84.6		ug/L	86	35 - 106	2	35	
3-Nitroaniline	98.0	83.9		ug/L	86	51 - 116	16	35	
4,6-Dinitro-2-methylphenol	196	194		ug/L	99	28 - 139	7	35	
4-Bromophenyl phenyl ether	98.0	99.6		ug/L	102	42 - 113	10	35	
4-Chloro-3-methylphenol	98.0	88.9		ug/L	91	44 - 110	2	35	
4-Chloroaniline	98.0	83.6		ug/L	85	42 - 109	3	35	
4-Chlorophenyl phenyl ether	98.0	98.6		ug/L	101	38 - 115	7	35	
4-Nitroaniline	98.0	91.1		ug/L	93	50 - 116	6	35	
4-Nitrophenol	196	192		ug/L	98	26 - 132	12	35	
Acenaphthene	98.0	89.5		ug/L	91	37 - 107	2	35	
Acenaphthylene	98.0	95.4		ug/L	97	39 - 107	3	35	
Aniline	98.0	89.1		ug/L	91	27 - 115	3	35	
Anthracene	98.0	98.0		ug/L	100	42 - 120	8	35	
Benzidine	98.0	ND *		ug/L	3	5 - 150	192	35	
Benzo[a]anthracene	98.0	109		ug/L	111	42 - 115	9	35	
Benzo[a]pyrene	98.0	98.4		ug/L	100	41 - 117	12	35	
Benzo[b]fluoranthene	98.0	96.4		ug/L	98	36 - 113	9	35	
Benzo[g,h,i]perylene	98.0	100		ug/L	102	37 - 115	8	35	
Benzo[k]fluoranthene	98.0	101		ug/L	103	42 - 122	14	35	
Benzoic acid	98.0	70.8		ug/L	72	15 - 121	3	35	
Benzyl alcohol	98.0	80.6		ug/L	82	39 - 106	12	35	
bis (2-chloroisopropyl) ether	98.0	79.2		ug/L	81	38 - 104	7	35	
Bis(2-chloroethoxy)methane	98.0	79.2		ug/L	81	47 - 104	3	35	
Bis(2-chloroethyl)ether	98.0	76.8		ug/L	78	42 - 99	4	35	
Bis(2-ethylhexyl) phthalate	98.0	115		ug/L	117	43 - 124	10	35	
Butyl benzyl phthalate	98.0	105		ug/L	107	44 - 122	8	35	
Chrysene	98.0	114		ug/L	116	42 - 118	9	35	
Dibenz(a,h)anthracene	98.0	97.4		ug/L	99	40 - 114	8	35	

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 440-477895/3-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 477895**

**%Rec.**

**RPD**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Dibenzofuran	98.0	90.5		ug/L	92	37 - 113	4	35	
Diethyl phthalate	98.0	96.7		ug/L	99	51 - 120	9	35	
Dimethyl phthalate	98.0	94.2		ug/L	96	49 - 113	9	35	
Di-n-butyl phthalate	98.0	98.2		ug/L	100	47 - 125	10	35	
Di-n-octyl phthalate	98.0	103		ug/L	105	42 - 125	7	35	
Fluoranthene	98.0	101		ug/L	103	44 - 119	8	35	
Fluorene	98.0	98.4		ug/L	100	39 - 116	7	35	
Hexachlorobenzene	98.0	99.4		ug/L	101	43 - 112	7	35	
Hexachlorobutadiene	98.0	52.4		ug/L	53	14 - 77	21	35	
Hexachlorocyclopentadiene	98.0	66.8		ug/L	68	10 - 77	16	35	
Hexachloroethane	98.0	49.7		ug/L	51	13 - 75	20	35	
Indeno[1,2,3-cd]pyrene	98.0	98.2		ug/L	100	35 - 116	10	35	
Isophorone	98.0	89.3		ug/L	91	48 - 107	1	35	
Naphthalene	98.0	70.4		ug/L	72	33 - 95	8	35	
Nitrobenzene	98.0	79.4		ug/L	81	42 - 99	5	35	
N-Nitrosodimethylamine	98.0	79.2		ug/L	81	35 - 96	8	35	
N-Nitrosodi-n-propylamine	98.0	84.4		ug/L	86	44 - 111	3	35	
N-Nitrosodiphenylamine	98.0	95.2		ug/L	97	46 - 116	9	35	
Pentachlorophenol	196	176		ug/L	90	26 - 136	11	35	
Phenanthrene	98.0	99.2		ug/L	101	43 - 120	9	35	
Phenol	98.0	72.2		ug/L	74	25 - 99	8	35	
Pyrene	98.0	116		ug/L	119	43 - 119	10	35	

**LCSD LCSD**

Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surrogate)	98		40 - 120
2-Fluorobiphenyl	78		50 - 120
2-Fluorophenol (Surrogate)	66		30 - 120
Nitrobenzene-d5 (Surrogate)	77		45 - 120
Phenol-d6 (Surrogate)	70		35 - 120
Terphenyl-d14 (Surrogate)	101		10 - 150

## Method: 8270C SIM - 1,4 Dioxane by SIM

**Lab Sample ID: MB 440-477875/1-A**

**Matrix: Water**

**Analysis Batch: 478024**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 477875**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	ug/L	05/22/18 12:28	05/23/18 13:32		1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surrogate)	66		36 - 90			05/22/18 12:28	05/23/18 13:32	1

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1  
 SDG: Whittier, CA

## Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)

**Lab Sample ID: LCS 440-477875/3-A**

**Matrix: Water**

**Analysis Batch: 478024**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 477875**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
1,4-Dioxane	1.98	1.28		ug/L	65		36 - 120
<b>Surrogate</b>		<b>LCS %Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>			
1,4-Dioxane-d8 (Surr)	60			36 - 90			

**Lab Sample ID: LCSD 440-477875/4-A**

**Matrix: Water**

**Analysis Batch: 478024**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 477875**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec.	RPD	Limit
1,4-Dioxane	2.00	1.20		ug/L	60		36 - 120	7
<b>Surrogate</b>		<b>LCSD %Recovery</b>	<b>LCSD Qualifier</b>	<b>Limits</b>				
1,4-Dioxane-d8 (Surr)	56			36 - 90				

## Method: SM 2540D - Solids, Total Suspended (TSS)

**Lab Sample ID: MB 440-478185/1**

**Matrix: Water**

**Analysis Batch: 478185**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	mg/L			05/23/18 15:33	1

**Lab Sample ID: LCS 440-478185/2**

**Matrix: Water**

**Analysis Batch: 478185**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
Total Suspended Solids	1000	1090		mg/L	109		85 - 115

**Lab Sample ID: MRL 440-478185/7**

**Matrix: Water**

**Analysis Batch: 478185**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec.	Limits
Total Suspended Solids	1.00	1.30		mg/L	130		50 - 150

**Lab Sample ID: 440-211846-B-5 DU**

**Matrix: Water**

**Analysis Batch: 478185**

**Client Sample ID: Duplicate**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Suspended Solids	12000		12100		mg/L		2	10

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1  
 SDG: Whittier, CA

## Method: SM 4500 H+ B - pH

**Lab Sample ID:** 440-211591-2 DU

**Matrix:** Water

**Analysis Batch:** 477429

**Client Sample ID:** Grab  
**Prep Type:** Total/NA

Analyte	Sample	Sample	DU		DU	Unit	D	RPD	RPD Limit
	Result	Qualifier	Result	Qualifier					
pH	8.7	HF	8.7		SU			0.2	2

## Method: SM 4500 S2 D - Sulfide, Total

**Lab Sample ID:** MB 440-477882/1-A

**Matrix:** Water

**Analysis Batch:** 477923

**Client Sample ID:** Method Blank  
**Prep Type:** Dissolved  
**Prep Batch:** 477882

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Sulfide, Dissolved	ND		0.050	mg/L		05/22/18 12:55	05/22/18 15:48	1

**Lab Sample ID:** LCS 440-477882/2-A

**Matrix:** Water

**Analysis Batch:** 477923

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Dissolved  
**Prep Batch:** 477882

Analyte	Spike	LCS	LCS	Unit	D	%Rec.	Limits	RPD
	Added	Result	Qualifier					
Sulfide, Dissolved	0.500	0.514		mg/L		103	80 - 120	

**Lab Sample ID:** LCSD 440-477882/3-A

**Matrix:** Water

**Analysis Batch:** 477923

**Client Sample ID:** Lab Control Sample Dup  
**Prep Type:** Dissolved  
**Prep Batch:** 477882

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec.	Limits	RPD
	Added	Result	Qualifier					
Sulfide, Dissolved	0.500	0.496		mg/L		99	80 - 120	4

**Lab Sample ID:** 440-211607-E-1-B MS

**Matrix:** Water

**Analysis Batch:** 477923

**Client Sample ID:** Matrix Spike  
**Prep Type:** Dissolved  
**Prep Batch:** 477882

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier				
Sulfide, Dissolved	ND	HF	0.500	0.463	HF	mg/L		93	70 - 130

**Lab Sample ID:** 440-211607-E-1-C MSD

**Matrix:** Water

**Analysis Batch:** 477923

**Client Sample ID:** Matrix Spike Duplicate  
**Prep Type:** Dissolved  
**Prep Batch:** 477882

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier				
Sulfide, Dissolved	ND	HF	0.500	0.490	HF	mg/L		98	70 - 130

## Method: SM 5220D - COD

**Lab Sample ID:** MB 440-478438/3

**Matrix:** Water

**Analysis Batch:** 478438

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Chemical Oxygen Demand	ND		20	mg/L		05/24/18 15:36		1

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: SM 5220D - COD (Continued)

**Lab Sample ID: LCS 440-478438/4**

**Matrix: Water**

**Analysis Batch: 478438**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	213		mg/L		107	90 - 110

**Lab Sample ID: 440-211913-A-1 MS**

**Matrix: Water**

**Analysis Batch: 478438**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	72		200	251		mg/L		89	70 - 120

**Lab Sample ID: 440-211913-A-1 MSD**

**Matrix: Water**

**Analysis Batch: 478438**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	72		200	258		mg/L		93	70 - 120	3	15

**Lab Sample ID: 440-211913-A-1 DU**

**Matrix: Water**

**Analysis Batch: 478438**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chemical Oxygen Demand	72		78.0		mg/L		8	15

# QC Association Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## GC/MS VOA

### Analysis Batch: 477486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	8260B	
MB 440-477486/4	Method Blank	Total/NA	Water	8260B	
LCS 440-477486/5	Lab Control Sample	Total/NA	Water	8260B	
440-211591-2 MS	Grab	Total/NA	Water	8260B	
440-211591-2 MSD	Grab	Total/NA	Water	8260B	

### Analysis Batch: 478012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	8260B	
MB 440-478012/5	Method Blank	Total/NA	Water	8260B	
LCS 440-478012/6	Lab Control Sample	Total/NA	Water	8260B	
440-211454-A-6 MS	Matrix Spike	Total/NA	Water	8260B	
440-211454-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

### Analysis Batch: 478275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2 - RA	Grab	Total/NA	Water	8260B	
MB 440-478275/6	Method Blank	Total/NA	Water	8260B	
LCS 440-478275/10	Lab Control Sample	Total/NA	Water	8260B	
440-211786-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-211786-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

## GC/MS Semi VOA

### Prep Batch: 477875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	3520C	
MB 440-477875/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-477875/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-477875/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	

### Prep Batch: 477895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	3520C	
MB 440-477895/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-477895/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-477895/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

### Analysis Batch: 478024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	8270C SIM	
MB 440-477875/1-A	Method Blank	Total/NA	Water	8270C SIM	
LCS 440-477875/3-A	Lab Control Sample	Total/NA	Water	8270C SIM	
LCSD 440-477875/4-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	

### Analysis Batch: 478357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	8270C	
MB 440-477895/1-A	Method Blank	Total/NA	Water	8270C	
LCS 440-477895/2-A	Lab Control Sample	Total/NA	Water	8270C	

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# QC Association Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## GC/MS Semi VOA (Continued)

### Analysis Batch: 478357 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 440-477895/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	477895

## General Chemistry

### Analysis Batch: 477429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	SM 4500 H+ B	
440-211591-2 DU	Grab	Total/NA	Water	SM 4500 H+ B	

### Prep Batch: 477882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Dissolved	Water	SM 4500 S2 B	
MB 440-477882/1-A	Method Blank	Dissolved	Water	SM 4500 S2 B	
LCS 440-477882/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 B	
LCSD 440-477882/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 B	
440-211607-E-1-B MS	Matrix Spike	Dissolved	Water	SM 4500 S2 B	
440-211607-E-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	SM 4500 S2 B	

### Analysis Batch: 477923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Dissolved	Water	SM 4500 S2 D	
MB 440-477882/1-A	Method Blank	Dissolved	Water	SM 4500 S2 D	
LCS 440-477882/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 D	
LCSD 440-477882/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 D	
440-211607-E-1-B MS	Matrix Spike	Dissolved	Water	SM 4500 S2 D	
440-211607-E-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	SM 4500 S2 D	

### Analysis Batch: 478185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-1	Composite	Total/NA	Water	SM 2540D	
MB 440-478185/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-478185/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MRL 440-478185/7	Lab Control Sample	Total/NA	Water	SM 2540D	
440-211846-B-5 DU	Duplicate	Total/NA	Water	SM 2540D	

### Analysis Batch: 478438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-1	Composite	Total/NA	Water	SM 5220D	
MB 440-478438/3	Method Blank	Total/NA	Water	SM 5220D	
LCS 440-478438/4	Lab Control Sample	Total/NA	Water	SM 5220D	
440-211913-A-1 MS	Matrix Spike	Total/NA	Water	SM 5220D	
440-211913-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5220D	
440-211913-A-1 DU	Duplicate	Total/NA	Water	SM 5220D	

## Field Service / Mobile Lab

### Analysis Batch: 477468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	Field Sampling	

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# Definitions/Glossary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

### GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

### General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8260B		Water	Total Volatile Organic Compounds
8270C	3520C	Water	2-Methylphenol
8270C	3520C	Water	3-Methylphenol + 4-Methylphenol
8270C	3520C	Water	4-Chloroaniline
8270C	3520C	Water	Benzidine
8270C SIM	3520C	Water	1,4-Dioxane
Field Sampling		Water	Field pH
Field Sampling		Water	Field Temperature

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## Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-211591-1  
SDG Number: Whittier, CA

**Login Number:** 211591

**List Source:** TestAmerica Irvine

**List Number:** 1

**Creator:** Soderblom, Tim

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		6
The cooler's custody seal, if present, is intact.	N/A	Not present	7
Sample custody seals, if present, are intact.	N/A	Not Present	8
The cooler or samples do not appear to have been compromised or tampered with.	True		9
Samples were received on ice.	True		10
Cooler Temperature is acceptable.	True		11
Cooler Temperature is recorded.	True		12
COC is present.	True		13
COC is filled out in ink and legible.	True		14
COC is filled out with all pertinent information.	True		15
Is the Field Sampler's name present on COC?	True		
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

[TestAmerica Job ID: 440-212870-1](#)

TestAmerica Sample Delivery Group: Omega Chemical

Client Project/Site: Omega Chemical - GWTS Monthly

For:

Jacob & Hefner Associates P.C.

15375 Barranca Parkway, J-101

Irvine, California 92618

Attn: Trent Henderson

Authorized for release by:

6/15/2018 3:32:53 PM

Danielle Roberts, Senior Project Manager

(949)261-1022

[danielle.roberts@testamericainc.com](mailto:danielle.roberts@testamericainc.com)

### LINKS

Review your project  
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**Total Access**

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Sample Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-212870-1	OC_SP220B_EFF_060518	Water	06/05/18 11:05	06/06/18 18:25
440-212870-2	OC_SP210_INF_060518	Water	06/05/18 11:15	06/06/18 18:25
440-212870-3	OC_TB_060518	Water	06/05/18 11:00	06/06/18 18:25

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TestAmerica Irvine

# Case Narrative

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
SDG: Omega Chemical

## Job ID: 440-212870-1

### Laboratory: TestAmerica Irvine

#### Narrative

#### Job Narrative 440-212870-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 6/6/2018 6:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.3° C.

#### Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

#### GC/MS VOA

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-481504 recovered above the upper control limit for 2,2-Dichloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: OC\_SP220B\_EFF\_060518 (440-212870-1), OC\_SP210\_INF\_060518 (440-212870-2), OC\_TB\_060518 (440-212870-3) and (CCVIS 440-481504/2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Detection Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_060518****Lab Sample ID: 440-212870-1**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	15		0.49	ug/L	1		8270C SIM	Total/NA

**Client Sample ID: OC\_SP210\_INF\_060518****Lab Sample ID: 440-212870-2**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	120		5.0	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	56		1.0	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	3.6		1.0	ug/L	1		8260B	Total/NA
Chloroform	19		1.0	ug/L	1		8260B	Total/NA
Trichloroethene	38		1.0	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	31		1.0	ug/L	1		8260B	Total/NA
Tetrachloroethylene - DL	220		5.0	ug/L	5		8260B	Total/NA

**Client Sample ID: OC\_TB\_060518****Lab Sample ID: 440-212870-3**

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_060518**

**Lab Sample ID: 440-212870-1**

**Matrix: Water**

**Date Collected: 06/05/18 11:05**

**Date Received: 06/06/18 18:25**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		06/12/18 12:33		1
1,1,1-Trichloroethane	ND		1.0	ug/L		06/12/18 12:33		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		06/12/18 12:33		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L		06/12/18 12:33		1
1,1,2-Trichloroethane	ND		1.0	ug/L		06/12/18 12:33		1
1,1-Dichloroethane	ND		1.0	ug/L		06/12/18 12:33		1
1,1-Dichloroethene	ND		1.0	ug/L		06/12/18 12:33		1
1,1-Dichloropropene	ND		1.0	ug/L		06/12/18 12:33		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		06/12/18 12:33		1
1,2,3-Trichloropropane	ND		1.0	ug/L		06/12/18 12:33		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		06/12/18 12:33		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		06/12/18 12:33		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		06/12/18 12:33		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		06/12/18 12:33		1
1,2-Dichlorobenzene	ND		1.0	ug/L		06/12/18 12:33		1
1,2-Dichloroethane	ND		1.0	ug/L		06/12/18 12:33		1
1,2-Dichloropropane	ND		1.0	ug/L		06/12/18 12:33		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		06/12/18 12:33		1
1,3-Dichlorobenzene	ND		1.0	ug/L		06/12/18 12:33		1
1,3-Dichloropropane	ND		1.0	ug/L		06/12/18 12:33		1
1,4-Dichlorobenzene	ND		1.0	ug/L		06/12/18 12:33		1
2,2-Dichloropropane	ND		1.0	ug/L		06/12/18 12:33		1
2-Chlorotoluene	ND		1.0	ug/L		06/12/18 12:33		1
4-Chlorotoluene	ND		1.0	ug/L		06/12/18 12:33		1
Acetone	ND		10	ug/L		06/12/18 12:33		1
Benzene	ND		0.50	ug/L		06/12/18 12:33		1
Bromobenzene	ND		1.0	ug/L		06/12/18 12:33		1
Bromochloromethane	ND		1.0	ug/L		06/12/18 12:33		1
Bromodichloromethane	ND		1.0	ug/L		06/12/18 12:33		1
Bromoform	ND		1.0	ug/L		06/12/18 12:33		1
Bromomethane	ND		1.0	ug/L		06/12/18 12:33		1
Carbon tetrachloride	ND		0.50	ug/L		06/12/18 12:33		1
Chlorobenzene	ND		1.0	ug/L		06/12/18 12:33		1
Chloroethane	ND		1.0	ug/L		06/12/18 12:33		1
Chloroform	ND		1.0	ug/L		06/12/18 12:33		1
Chloromethane	ND		1.0	ug/L		06/12/18 12:33		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		06/12/18 12:33		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		06/12/18 12:33		1
Dibromochloromethane	ND		1.0	ug/L		06/12/18 12:33		1
Dibromomethane	ND		1.0	ug/L		06/12/18 12:33		1
Dichlorodifluoromethane	ND		1.0	ug/L		06/12/18 12:33		1
Ethylbenzene	ND		1.0	ug/L		06/12/18 12:33		1
Hexachlorobutadiene	ND		1.0	ug/L		06/12/18 12:33		1
Isopropyl alcohol	ND		250	ug/L		06/12/18 12:33		1
Isopropylbenzene	ND		1.0	ug/L		06/12/18 12:33		1
m,p-Xylene	ND		1.0	ug/L		06/12/18 12:33		1
Methylene Chloride	ND		5.0	ug/L		06/12/18 12:33		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		06/12/18 12:33		1
Naphthalene	ND		1.0	ug/L		06/12/18 12:33		1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_060518**

**Lab Sample ID: 440-212870-1**

Matrix: Water

Date Collected: 06/05/18 11:05

Date Received: 06/06/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	ug/L		06/12/18 12:33		1
N-Propylbenzene	ND		1.0	ug/L		06/12/18 12:33		1
o-Xylene	ND		1.0	ug/L		06/12/18 12:33		1
p-Isopropyltoluene	ND		1.0	ug/L		06/12/18 12:33		1
sec-Butylbenzene	ND		1.0	ug/L		06/12/18 12:33		1
Styrene	ND		1.0	ug/L		06/12/18 12:33		1
tert-Butylbenzene	ND		1.0	ug/L		06/12/18 12:33		1
Tetrachloroethene	ND		1.0	ug/L		06/12/18 12:33		1
Toluene	ND		1.0	ug/L		06/12/18 12:33		1
trans-1,2-Dichloroethene	ND		1.0	ug/L		06/12/18 12:33		1
trans-1,3-Dichloropropene	ND		0.50	ug/L		06/12/18 12:33		1
Trichloroethene	ND		1.0	ug/L		06/12/18 12:33		1
Trichlorofluoromethane	ND		1.0	ug/L		06/12/18 12:33		1
Vinyl chloride	ND		0.50	ug/L		06/12/18 12:33		1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	111		70 - 130			06/12/18 12:33		1
4-Bromofluorobenzene (Surr)	101		80 - 120			06/12/18 12:33		1
Dibromofluoromethane (Surr)	112		76 - 132			06/12/18 12:33		1
Toluene-d8 (Surr)	111		80 - 128			06/12/18 12:33		1

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15		0.49	ug/L		06/10/18 11:27	06/12/18 21:04	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,4-Dioxane-d8 (Surr)	63		36 - 90			06/10/18 11:27	06/12/18 21:04	1

**Client Sample ID: OC\_SP210\_INF\_060518**

**Lab Sample ID: 440-212870-2**

Matrix: Water

Date Collected: 06/05/18 11:15

Date Received: 06/06/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		06/12/18 12:57		1
1,1,1-Trichloroethane	ND		1.0	ug/L		06/12/18 12:57		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		06/12/18 12:57		1
<b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>	<b>120</b>		5.0	ug/L		06/12/18 12:57		1
1,1,2-Trichloroethane	ND		1.0	ug/L		06/12/18 12:57		1
1,1-Dichloroethane	ND		1.0	ug/L		06/12/18 12:57		1
<b>1,1-Dichloroethene</b>	<b>56</b>		1.0	ug/L		06/12/18 12:57		1
1,1-Dichloropropene	ND		1.0	ug/L		06/12/18 12:57		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		06/12/18 12:57		1
1,2,3-Trichloropropane	ND		1.0	ug/L		06/12/18 12:57		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		06/12/18 12:57		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		06/12/18 12:57		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		06/12/18 12:57		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		06/12/18 12:57		1
1,2-Dichlorobenzene	ND		1.0	ug/L		06/12/18 12:57		1
<b>1,2-Dichloroethane</b>	<b>3.6</b>		1.0	ug/L		06/12/18 12:57		1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP210\_INF\_060518**

**Lab Sample ID: 440-212870-2**

Date Collected: 06/05/18 11:15

Matrix: Water

Date Received: 06/06/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		1.0	ug/L		06/12/18 12:57		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		06/12/18 12:57		1
1,3-Dichlorobenzene	ND		1.0	ug/L		06/12/18 12:57		1
1,3-Dichloropropane	ND		1.0	ug/L		06/12/18 12:57		1
1,4-Dichlorobenzene	ND		1.0	ug/L		06/12/18 12:57		1
2,2-Dichloropropane	ND		1.0	ug/L		06/12/18 12:57		1
2-Chlorotoluene	ND		1.0	ug/L		06/12/18 12:57		1
4-Chlorotoluene	ND		1.0	ug/L		06/12/18 12:57		1
Acetone	ND		10	ug/L		06/12/18 12:57		1
Benzene	ND		0.50	ug/L		06/12/18 12:57		1
Bromobenzene	ND		1.0	ug/L		06/12/18 12:57		1
Bromochloromethane	ND		1.0	ug/L		06/12/18 12:57		1
Bromodichloromethane	ND		1.0	ug/L		06/12/18 12:57		1
Bromoform	ND		1.0	ug/L		06/12/18 12:57		1
Bromomethane	ND		1.0	ug/L		06/12/18 12:57		1
Carbon tetrachloride	ND		0.50	ug/L		06/12/18 12:57		1
Chlorobenzene	ND		1.0	ug/L		06/12/18 12:57		1
Chloroethane	ND		1.0	ug/L		06/12/18 12:57		1
<b>Chloroform</b>	<b>19</b>		1.0	ug/L		06/12/18 12:57		1
Chloromethane	ND		1.0	ug/L		06/12/18 12:57		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		06/12/18 12:57		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		06/12/18 12:57		1
Dibromochloromethane	ND		1.0	ug/L		06/12/18 12:57		1
Dibromomethane	ND		1.0	ug/L		06/12/18 12:57		1
Dichlorodifluoromethane	ND		1.0	ug/L		06/12/18 12:57		1
Ethylbenzene	ND		1.0	ug/L		06/12/18 12:57		1
Hexachlorobutadiene	ND		1.0	ug/L		06/12/18 12:57		1
Isopropyl alcohol	ND		250	ug/L		06/12/18 12:57		1
Isopropylbenzene	ND		1.0	ug/L		06/12/18 12:57		1
m,p-Xylene	ND		1.0	ug/L		06/12/18 12:57		1
Methylene Chloride	ND		5.0	ug/L		06/12/18 12:57		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		06/12/18 12:57		1
Naphthalene	ND		1.0	ug/L		06/12/18 12:57		1
n-Butylbenzene	ND		1.0	ug/L		06/12/18 12:57		1
N-Propylbenzene	ND		1.0	ug/L		06/12/18 12:57		1
o-Xylene	ND		1.0	ug/L		06/12/18 12:57		1
p-Isopropyltoluene	ND		1.0	ug/L		06/12/18 12:57		1
sec-Butylbenzene	ND		1.0	ug/L		06/12/18 12:57		1
Styrene	ND		1.0	ug/L		06/12/18 12:57		1
tert-Butylbenzene	ND		1.0	ug/L		06/12/18 12:57		1
Toluene	ND		1.0	ug/L		06/12/18 12:57		1
trans-1,2-Dichloroethene	ND		1.0	ug/L		06/12/18 12:57		1
trans-1,3-Dichloropropene	ND		0.50	ug/L		06/12/18 12:57		1
<b>Trichloroethene</b>	<b>38</b>		1.0	ug/L		06/12/18 12:57		1
<b>Trichlorofluoromethane</b>	<b>31</b>		1.0	ug/L		06/12/18 12:57		1
Vinyl chloride	ND		0.50	ug/L		06/12/18 12:57		1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		70 - 130		06/12/18 12:57	1
4-Bromofluorobenzene (Surr)	102		80 - 120		06/12/18 12:57	1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP210\_INF\_060518**

**Lab Sample ID: 440-212870-2**

Matrix: Water

Date Collected: 06/05/18 11:15  
 Date Received: 06/06/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	113		76 - 132		06/12/18 12:57	1
Toluene-d8 (Surr)	112		80 - 128		06/12/18 12:57	1

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	220		5.0	ug/L			06/13/18 09:24	5
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 130				06/13/18 09:24	5
4-Bromofluorobenzene (Surr)	101		80 - 120				06/13/18 09:24	5
Dibromofluoromethane (Surr)	99		76 - 132				06/13/18 09:24	5
Toluene-d8 (Surr)	98		80 - 128				06/13/18 09:24	5

**Client Sample ID: OC\_TB\_060518**

**Lab Sample ID: 440-212870-3**

Matrix: Water

Date Collected: 06/05/18 11:00  
 Date Received: 06/06/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			06/12/18 13:20	1
1,1,1-Trichloroethane	ND		1.0	ug/L			06/12/18 13:20	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			06/12/18 13:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			06/12/18 13:20	1
1,1,2-Trichloroethane	ND		1.0	ug/L			06/12/18 13:20	1
1,1-Dichloroethane	ND		1.0	ug/L			06/12/18 13:20	1
1,1-Dichloroethene	ND		1.0	ug/L			06/12/18 13:20	1
1,1-Dichloropropene	ND		1.0	ug/L			06/12/18 13:20	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			06/12/18 13:20	1
1,2,3-Trichloropropane	ND		1.0	ug/L			06/12/18 13:20	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			06/12/18 13:20	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			06/12/18 13:20	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			06/12/18 13:20	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			06/12/18 13:20	1
1,2-Dichlorobenzene	ND		1.0	ug/L			06/12/18 13:20	1
1,2-Dichloroethane	ND		1.0	ug/L			06/12/18 13:20	1
1,2-Dichloropropane	ND		1.0	ug/L			06/12/18 13:20	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			06/12/18 13:20	1
1,3-Dichlorobenzene	ND		1.0	ug/L			06/12/18 13:20	1
1,3-Dichloropropane	ND		1.0	ug/L			06/12/18 13:20	1
1,4-Dichlorobenzene	ND		1.0	ug/L			06/12/18 13:20	1
2,2-Dichloropropane	ND		1.0	ug/L			06/12/18 13:20	1
2-Chlorotoluene	ND		1.0	ug/L			06/12/18 13:20	1
4-Chlorotoluene	ND		1.0	ug/L			06/12/18 13:20	1
Acetone	ND		10	ug/L			06/12/18 13:20	1
Benzene	ND		0.50	ug/L			06/12/18 13:20	1
Bromobenzene	ND		1.0	ug/L			06/12/18 13:20	1
Bromochloromethane	ND		1.0	ug/L			06/12/18 13:20	1
Bromodichloromethane	ND		1.0	ug/L			06/12/18 13:20	1
Bromoform	ND		1.0	ug/L			06/12/18 13:20	1
Bromomethane	ND		1.0	ug/L			06/12/18 13:20	1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_TB\_060518**

**Lab Sample ID: 440-212870-3**

Date Collected: 06/05/18 11:00

Matrix: Water

Date Received: 06/06/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		0.50	ug/L		06/12/18 13:20		1
Chlorobenzene	ND		1.0	ug/L		06/12/18 13:20		1
Chloroethane	ND		1.0	ug/L		06/12/18 13:20		1
Chloroform	ND		1.0	ug/L		06/12/18 13:20		1
Chloromethane	ND		1.0	ug/L		06/12/18 13:20		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		06/12/18 13:20		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		06/12/18 13:20		1
Dibromochloromethane	ND		1.0	ug/L		06/12/18 13:20		1
Dibromomethane	ND		1.0	ug/L		06/12/18 13:20		1
Dichlorodifluoromethane	ND		1.0	ug/L		06/12/18 13:20		1
Ethylbenzene	ND		1.0	ug/L		06/12/18 13:20		1
Hexachlorobutadiene	ND		1.0	ug/L		06/12/18 13:20		1
Isopropyl alcohol	ND		250	ug/L		06/12/18 13:20		1
Isopropylbenzene	ND		1.0	ug/L		06/12/18 13:20		1
m,p-Xylene	ND		1.0	ug/L		06/12/18 13:20		1
Methylene Chloride	ND		5.0	ug/L		06/12/18 13:20		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		06/12/18 13:20		1
Naphthalene	ND		1.0	ug/L		06/12/18 13:20		1
n-Butylbenzene	ND		1.0	ug/L		06/12/18 13:20		1
N-Propylbenzene	ND		1.0	ug/L		06/12/18 13:20		1
o-Xylene	ND		1.0	ug/L		06/12/18 13:20		1
p-Isopropyltoluene	ND		1.0	ug/L		06/12/18 13:20		1
sec-Butylbenzene	ND		1.0	ug/L		06/12/18 13:20		1
Styrene	ND		1.0	ug/L		06/12/18 13:20		1
tert-Butylbenzene	ND		1.0	ug/L		06/12/18 13:20		1
Tetrachloroethene	ND		1.0	ug/L		06/12/18 13:20		1
Toluene	ND		1.0	ug/L		06/12/18 13:20		1
trans-1,2-Dichloroethene	ND		1.0	ug/L		06/12/18 13:20		1
trans-1,3-Dichloropropene	ND		0.50	ug/L		06/12/18 13:20		1
Trichloroethene	ND		1.0	ug/L		06/12/18 13:20		1
Trichlorofluoromethane	ND		1.0	ug/L		06/12/18 13:20		1
Vinyl chloride	ND		0.50	ug/L		06/12/18 13:20		1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	112		70 - 130			06/12/18 13:20		1
4-Bromofluorobenzene (Surr)	101		80 - 120			06/12/18 13:20		1
Dibromofluoromethane (Surr)	112		76 - 132			06/12/18 13:20		1
Toluene-d8 (Surr)	111		80 - 128			06/12/18 13:20		1

# Surrogate Summary

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-212827-C-7 MS	Matrix Spike	112	101	110	107
440-212827-C-7 MSD	Matrix Spike Duplicate	113	101	112	109
440-212870-1	OC_SP220B_EFF_060518	111	101	112	111
440-212870-2	OC_SP210_INF_060518	114	102	113	112
440-212870-2 - DL	OC_SP210_INF_060518	99	101	99	98
440-212870-3	OC_TB_060518	112	101	112	111
440-213174-B-4 MS	Matrix Spike	91	103	94	99
440-213174-B-4 MSD	Matrix Spike Duplicate	93	104	96	96
LCS 440-481504/5	Lab Control Sample	113	101	112	110
LCS 440-481798/24	Lab Control Sample	84	104	90	100
MB 440-481504/4	Method Blank	113	102	111	112
MB 440-481798/3	Method Blank	89	104	94	103

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		DXE (36-90)		
440-212870-1	OC_SP220B_EFF_060518	63		
440-213182-A-1-A MS	Matrix Spike	72		
440-213182-A-1-B MSD	Matrix Spike Duplicate	68		
LCS 440-481276/2-A	Lab Control Sample	75		
MB 440-481276/1-A	Method Blank	72		

### Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

## Method Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# Lab Chronicle

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_060518**

**Lab Sample ID: 440-212870-1**

**Matrix: Water**

**Date Collected: 06/05/18 11:05**

**Date Received: 06/06/18 18:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	481504	06/12/18 12:33	RM	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	481276	06/10/18 11:27	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			481621	06/12/18 21:04	HN	TAL IRV

**Client Sample ID: OC\_SP210\_INF\_060518**

**Lab Sample ID: 440-212870-2**

**Matrix: Water**

**Date Collected: 06/05/18 11:15**

**Date Received: 06/06/18 18:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	481504	06/12/18 12:57	RM	TAL IRV
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	481798	06/13/18 09:24	TCN	TAL IRV

**Client Sample ID: OC\_TB\_060518**

**Lab Sample ID: 440-212870-3**

**Matrix: Water**

**Date Collected: 06/05/18 11:00**

**Date Received: 06/06/18 18:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	481504	06/12/18 13:20	RM	TAL IRV

## Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-481504/4**

**Matrix: Water**

**Analysis Batch: 481504**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		06/12/18 09:02		1
1,1,1-Trichloroethane	ND		1.0	ug/L		06/12/18 09:02		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		06/12/18 09:02		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L		06/12/18 09:02		1
1,1,2-Trichloroethane	ND		1.0	ug/L		06/12/18 09:02		1
1,1-Dichloroethane	ND		1.0	ug/L		06/12/18 09:02		1
1,1-Dichloroethene	ND		1.0	ug/L		06/12/18 09:02		1
1,1-Dichloropropene	ND		1.0	ug/L		06/12/18 09:02		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		06/12/18 09:02		1
1,2,3-Trichloropropane	ND		1.0	ug/L		06/12/18 09:02		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		06/12/18 09:02		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		06/12/18 09:02		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		06/12/18 09:02		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		06/12/18 09:02		1
1,2-Dichlorobenzene	ND		1.0	ug/L		06/12/18 09:02		1
1,2-Dichloroethane	ND		1.0	ug/L		06/12/18 09:02		1
1,2-Dichloropropane	ND		1.0	ug/L		06/12/18 09:02		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		06/12/18 09:02		1
1,3-Dichlorobenzene	ND		1.0	ug/L		06/12/18 09:02		1
1,3-Dichloropropane	ND		1.0	ug/L		06/12/18 09:02		1
1,4-Dichlorobenzene	ND		1.0	ug/L		06/12/18 09:02		1
2,2-Dichloropropane	ND		1.0	ug/L		06/12/18 09:02		1
2-Chlorotoluene	ND		1.0	ug/L		06/12/18 09:02		1
4-Chlorotoluene	ND		1.0	ug/L		06/12/18 09:02		1
Acetone	ND		10	ug/L		06/12/18 09:02		1
Benzene	ND		0.50	ug/L		06/12/18 09:02		1
Bromobenzene	ND		1.0	ug/L		06/12/18 09:02		1
Bromochloromethane	ND		1.0	ug/L		06/12/18 09:02		1
Bromodichloromethane	ND		1.0	ug/L		06/12/18 09:02		1
Bromoform	ND		1.0	ug/L		06/12/18 09:02		1
Bromomethane	ND		1.0	ug/L		06/12/18 09:02		1
Carbon tetrachloride	ND		0.50	ug/L		06/12/18 09:02		1
Chlorobenzene	ND		1.0	ug/L		06/12/18 09:02		1
Chloroethane	ND		1.0	ug/L		06/12/18 09:02		1
Chloroform	ND		1.0	ug/L		06/12/18 09:02		1
Chloromethane	ND		1.0	ug/L		06/12/18 09:02		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		06/12/18 09:02		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		06/12/18 09:02		1
Dibromochloromethane	ND		1.0	ug/L		06/12/18 09:02		1
Dibromomethane	ND		1.0	ug/L		06/12/18 09:02		1
Dichlorodifluoromethane	ND		1.0	ug/L		06/12/18 09:02		1
Ethylbenzene	ND		1.0	ug/L		06/12/18 09:02		1
Hexachlorobutadiene	ND		1.0	ug/L		06/12/18 09:02		1
Isopropyl alcohol	ND		250	ug/L		06/12/18 09:02		1
Isopropylbenzene	ND		1.0	ug/L		06/12/18 09:02		1
m,p-Xylene	ND		1.0	ug/L		06/12/18 09:02		1
Methylene Chloride	ND		5.0	ug/L		06/12/18 09:02		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		06/12/18 09:02		1

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-481504/4**

**Matrix: Water**

**Analysis Batch: 481504**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	ug/L			06/12/18 09:02	1
n-Butylbenzene	ND		1.0	ug/L			06/12/18 09:02	1
N-Propylbenzene	ND		1.0	ug/L			06/12/18 09:02	1
o-Xylene	ND		1.0	ug/L			06/12/18 09:02	1
p-Isopropyltoluene	ND		1.0	ug/L			06/12/18 09:02	1
sec-Butylbenzene	ND		1.0	ug/L			06/12/18 09:02	1
Styrene	ND		1.0	ug/L			06/12/18 09:02	1
tert-Butylbenzene	ND		1.0	ug/L			06/12/18 09:02	1
Tetrachloroethene	ND		1.0	ug/L			06/12/18 09:02	1
Toluene	ND		1.0	ug/L			06/12/18 09:02	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			06/12/18 09:02	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			06/12/18 09:02	1
Trichloroethene	ND		1.0	ug/L			06/12/18 09:02	1
Trichlorofluoromethane	ND		1.0	ug/L			06/12/18 09:02	1
Vinyl chloride	ND		0.50	ug/L			06/12/18 09:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 130		06/12/18 09:02	1
4-Bromofluorobenzene (Surr)	102		80 - 120		06/12/18 09:02	1
Dibromofluoromethane (Surr)	111		76 - 132		06/12/18 09:02	1
Toluene-d8 (Surr)	112		80 - 128		06/12/18 09:02	1

**Lab Sample ID: LCS 440-481504/5**

**Matrix: Water**

**Analysis Batch: 481504**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
1,1,1,2-Tetrachloroethane	25.0	26.5		ug/L		106	60 - 141	
1,1,1-Trichloroethane	25.0	27.8		ug/L		111	70 - 130	
1,1,2,2-Tetrachloroethane	25.0	23.5		ug/L		94	63 - 130	
1,1,2-Trichloroethane	25.0	24.5		ug/L		98	70 - 130	
1,1-Dichloroethane	25.0	25.6		ug/L		102	64 - 130	
1,1-Dichloroethene	25.0	21.8		ug/L		87	70 - 130	
1,1-Dichloropropene	25.0	26.4		ug/L		106	70 - 130	
1,2,3-Trichlorobenzene	25.0	27.8		ug/L		111	60 - 140	
1,2,3-Trichloropropane	25.0	22.6		ug/L		90	63 - 130	
1,2,4-Trichlorobenzene	25.0	27.5		ug/L		110	60 - 140	
1,2,4-Trimethylbenzene	25.0	24.3		ug/L		97	70 - 135	
1,2-Dibromo-3-Chloropropane	25.0	25.6		ug/L		103	52 - 140	
1,2-Dibromoethane (EDB)	25.0	24.3		ug/L		97	70 - 130	
1,2-Dichlorobenzene	25.0	24.5		ug/L		98	70 - 130	
1,2-Dichloroethane	25.0	26.7		ug/L		107	57 - 138	
1,2-Dichloropropane	25.0	25.9		ug/L		103	67 - 130	
1,3,5-Trimethylbenzene	25.0	24.7		ug/L		99	70 - 136	
1,3-Dichlorobenzene	25.0	24.2		ug/L		97	70 - 130	
1,3-Dichloropropane	25.0	23.6		ug/L		94	70 - 130	
1,4-Dichlorobenzene	25.0	24.3		ug/L		97	70 - 130	
2,2-Dichloropropane	25.0	32.1		ug/L		128	68 - 141	

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-481504/5**

**Matrix: Water**

**Analysis Batch: 481504**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
2-Chlorotoluene	25.0	23.5		ug/L	94	70 - 130		
4-Chlorotoluene	25.0	23.7		ug/L	95	70 - 130		
Acetone	25.0	25.3		ug/L	101	10 - 150		
Benzene	25.0	24.8		ug/L	99	68 - 130		
Bromobenzene	25.0	23.3		ug/L	93	70 - 130		
Bromochloromethane	25.0	24.7		ug/L	99	70 - 130		
Bromodichloromethane	25.0	27.4		ug/L	110	70 - 132		
Bromoform	25.0	26.4		ug/L	105	60 - 148		
Bromomethane	25.0	21.1		ug/L	84	64 - 139		
Carbon tetrachloride	25.0	27.1		ug/L	108	60 - 150		
Chlorobenzene	25.0	24.1		ug/L	96	70 - 130		
Chloroethane	25.0	22.4		ug/L	90	64 - 135		
Chloroform	25.0	25.9		ug/L	104	70 - 130		
Chloromethane	25.0	16.8		ug/L	67	47 - 140		
cis-1,2-Dichloroethene	25.0	23.0		ug/L	92	70 - 133		
cis-1,3-Dichloropropene	25.0	25.4		ug/L	102	70 - 133		
Dibromochloromethane	25.0	25.6		ug/L	103	69 - 145		
Dibromomethane	25.0	25.9		ug/L	103	70 - 130		
Dichlorodifluoromethane	25.0	16.7		ug/L	67	29 - 150		
Ethylbenzene	25.0	25.1		ug/L	100	70 - 130		
Hexachlorobutadiene	25.0	26.3		ug/L	105	10 - 150		
Isopropylbenzene	25.0	25.4		ug/L	102	70 - 136		
m,p-Xylene	25.0	24.7		ug/L	99	70 - 130		
Methylene Chloride	25.0	23.7		ug/L	95	52 - 130		
Methyl-t-Butyl Ether (MTBE)	25.0	26.2		ug/L	105	63 - 131		
Naphthalene	25.0	25.5		ug/L	102	60 - 140		
n-Butylbenzene	25.0	25.5		ug/L	102	65 - 150		
N-Propylbenzene	25.0	24.0		ug/L	96	67 - 139		
o-Xylene	25.0	24.3		ug/L	97	70 - 130		
p-Isopropyltoluene	25.0	23.8		ug/L	95	70 - 132		
sec-Butylbenzene	25.0	24.0		ug/L	96	70 - 138		
Styrene	25.0	26.1		ug/L	104	70 - 134		
tert-Butylbenzene	25.0	23.5		ug/L	94	70 - 130		
Tetrachloroethene	25.0	24.6		ug/L	98	70 - 130		
Toluene	25.0	24.3		ug/L	97	70 - 130		
trans-1,2-Dichloroethene	25.0	23.6		ug/L	94	70 - 130		
trans-1,3-Dichloropropene	25.0	25.6		ug/L	102	70 - 132		
Trichloroethene	25.0	24.5		ug/L	98	70 - 130		
Trichlorofluoromethane	25.0	23.9		ug/L	96	60 - 150		
Vinyl chloride	25.0	17.9		ug/L	71	59 - 133		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		70 - 130
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	112		76 - 132
Toluene-d8 (Surr)	110		80 - 128

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-212827-C-7 MS**

**Matrix: Water**

**Analysis Batch: 481504**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		250	263		ug/L		105	60 - 149
1,1,1-Trichloroethane	ND		250	277		ug/L		111	70 - 130
1,1,2,2-Tetrachloroethane	ND		250	241		ug/L		96	63 - 130
1,1,2-Trichloroethane	ND		250	242		ug/L		97	70 - 130
1,1-Dichloroethane	36		250	293		ug/L		103	65 - 130
1,1-Dichloroethene	ND		250	235		ug/L		92	70 - 130
1,1-Dichloropropene	ND		250	264		ug/L		105	64 - 130
1,2,3-Trichlorobenzene	ND		250	279		ug/L		112	60 - 140
1,2,3-Trichloropropane	ND		250	231		ug/L		92	60 - 130
1,2,4-Trichlorobenzene	ND		250	276		ug/L		110	60 - 140
1,2,4-Trimethylbenzene	ND		250	244		ug/L		97	70 - 130
1,2-Dibromo-3-Chloropropane	ND		250	272		ug/L		109	48 - 140
1,2-Dibromoethane (EDB)	ND		250	244		ug/L		98	70 - 131
1,2-Dichlorobenzene	ND		250	250		ug/L		100	70 - 130
1,2-Dichloroethane	ND		250	267		ug/L		107	56 - 146
1,2-Dichloropropane	ND		250	254		ug/L		102	69 - 130
1,3,5-Trimethylbenzene	ND		250	248		ug/L		99	70 - 130
1,3-Dichlorobenzene	ND		250	245		ug/L		98	70 - 130
1,3-Dichloropropane	ND		250	237		ug/L		95	70 - 130
1,4-Dichlorobenzene	ND		250	241		ug/L		96	70 - 130
2,2-Dichloropropane	ND		250	334		ug/L		134	69 - 138
2-Chlorotoluene	ND		250	237		ug/L		95	70 - 130
4-Chlorotoluene	ND		250	246		ug/L		98	70 - 130
Acetone	ND		250	255		ug/L		102	10 - 150
Benzene	ND		250	252		ug/L		101	66 - 130
Bromobenzene	ND		250	240		ug/L		96	70 - 130
Bromochloromethane	ND		250	248		ug/L		99	70 - 130
Bromodichloromethane	ND		250	281		ug/L		112	70 - 138
Bromoform	ND		250	268		ug/L		107	59 - 150
Bromomethane	ND		250	235		ug/L		94	62 - 131
Carbon tetrachloride	ND		250	266		ug/L		106	60 - 150
Chlorobenzene	ND		250	246		ug/L		98	70 - 130
Chloroethane	ND		250	241		ug/L		97	68 - 130
Chloroform	ND		250	266		ug/L		106	70 - 130
Chloromethane	ND		250	200		ug/L		80	39 - 144
cis-1,2-Dichloroethene	ND		250	243		ug/L		94	70 - 130
cis-1,3-Dichloropropene	ND		250	254		ug/L		102	70 - 133
Dibromochloromethane	ND		250	252		ug/L		101	70 - 148
Dibromomethane	ND		250	265		ug/L		106	70 - 130
Dichlorodifluoromethane	ND		250	206		ug/L		82	25 - 142
Ethylbenzene	ND		250	252		ug/L		101	70 - 130
Hexachlorobutadiene	ND		250	261		ug/L		104	10 - 150
Isopropylbenzene	ND		250	253		ug/L		101	70 - 132
m,p-Xylene	ND		250	249		ug/L		99	70 - 133
Methylene Chloride	ND		250	269		ug/L		108	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		250	269		ug/L		108	70 - 130
Naphthalene	ND		250	259		ug/L		104	60 - 140
n-Butylbenzene	ND		250	258		ug/L		103	61 - 149

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-212827-C-7 MS**

**Matrix: Water**

**Analysis Batch: 481504**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
N-Propylbenzene	ND		250	239		ug/L		96	66 - 135
o-Xylene	ND		250	247		ug/L		99	70 - 133
p-Isopropyltoluene	ND		250	238		ug/L		95	70 - 130
sec-Butylbenzene	ND		250	234		ug/L		94	67 - 134
Styrene	ND		250	261		ug/L		104	29 - 150
tert-Butylbenzene	ND		250	236		ug/L		94	70 - 130
Tetrachloroethene	ND		250	248		ug/L		99	70 - 137
Toluene	ND		250	241		ug/L		96	70 - 130
trans-1,2-Dichloroethene	ND		250	239		ug/L		96	70 - 130
trans-1,3-Dichloropropene	ND		250	253		ug/L		101	70 - 138
Trichloroethene	240		250	479		ug/L		97	70 - 130
Trichlorofluoromethane	ND		250	248		ug/L		99	60 - 150
Vinyl chloride	ND		250	201		ug/L		80	50 - 137
<b>Surrogate</b>									
	MS	MS		%Recovery	Qualifier	Limits			
1,2-Dichloroethane-d4 (Surr)	112				70 - 130				
4-Bromofluorobenzene (Surr)	101				80 - 120				
Dibromofluoromethane (Surr)	110				76 - 132				
Toluene-d8 (Surr)	107				80 - 128				

**Lab Sample ID: 440-212827-C-7 MSD**

**Matrix: Water**

**Analysis Batch: 481504**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1,1,2-Tetrachloroethane	ND		250	267		ug/L		107	60 - 149	1	20
1,1,1-Trichloroethane	ND		250	276		ug/L		110	70 - 130	0	20
1,1,2,2-Tetrachloroethane	ND		250	249		ug/L		100	63 - 130	4	30
1,1,2-Trichloroethane	ND		250	252		ug/L		101	70 - 130	4	25
1,1-Dichloroethane	36		250	302		ug/L		106	65 - 130	3	20
1,1-Dichloroethene	ND		250	232		ug/L		91	70 - 130	1	20
1,1-Dichloropropene	ND		250	261		ug/L		104	64 - 130	1	20
1,2,3-Trichlorobenzene	ND		250	291		ug/L		116	60 - 140	4	20
1,2,3-Trichloropropane	ND		250	240		ug/L		96	60 - 130	4	30
1,2,4-Trichlorobenzene	ND		250	284		ug/L		114	60 - 140	3	20
1,2,4-Trimethylbenzene	ND		250	249		ug/L		100	70 - 130	2	25
1,2-Dibromo-3-Chloropropane	ND		250	266		ug/L		107	48 - 140	2	30
1,2-Dibromoethane (EDB)	ND		250	246		ug/L		98	70 - 131	1	25
1,2-Dichlorobenzene	ND		250	255		ug/L		102	70 - 130	2	20
1,2-Dichloroethane	ND		250	279		ug/L		112	56 - 146	4	20
1,2-Dichloropropane	ND		250	266		ug/L		106	69 - 130	4	20
1,3,5-Trimethylbenzene	ND		250	251		ug/L		100	70 - 130	1	20
1,3-Dichlorobenzene	ND		250	247		ug/L		99	70 - 130	1	20
1,3-Dichloropropane	ND		250	243		ug/L		97	70 - 130	2	25
1,4-Dichlorobenzene	ND		250	250		ug/L		100	70 - 130	4	20
2,2-Dichloropropane	ND		250	306		ug/L		122	69 - 138	9	25
2-Chlorotoluene	ND		250	240		ug/L		96	70 - 130	1	20
4-Chlorotoluene	ND		250	246		ug/L		98	70 - 130	0	20

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-212827-C-7 MSD**

**Matrix: Water**

**Analysis Batch: 481504**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Acetone	ND		250	247		ug/L	99	10 - 150	3	35	
Benzene	ND		250	255		ug/L	102	66 - 130	1	20	
Bromobenzene	ND		250	249		ug/L	99	70 - 130	3	20	
Bromoform	ND		250	267		ug/L	107	59 - 150	0	25	
Bromomethane	ND		250	238		ug/L	95	62 - 131	1	25	
Carbon tetrachloride	ND		250	264		ug/L	106	60 - 150	1	25	
Chlorobenzene	ND		250	248		ug/L	99	70 - 130	1	20	
Chloroethane	ND		250	236		ug/L	94	68 - 130	2	25	
Chloroform	ND		250	271		ug/L	108	70 - 130	2	20	
Chloromethane	ND		250	200		ug/L	80	39 - 144	0	25	
cis-1,2-Dichloroethene	ND		250	249		ug/L	97	70 - 130	3	20	
cis-1,3-Dichloropropene	ND		250	261		ug/L	105	70 - 133	3	20	
Dibromochloromethane	ND		250	260		ug/L	104	70 - 148	3	25	
Dibromomethane	ND		250	272		ug/L	109	70 - 130	3	25	
Dichlorodifluoromethane	ND		250	197		ug/L	79	25 - 142	4	30	
Ethylbenzene	ND		250	252		ug/L	101	70 - 130	0	20	
Hexachlorobutadiene	ND		250	254		ug/L	102	10 - 150	2	20	
Isopropylbenzene	ND		250	252		ug/L	101	70 - 132	1	20	
m,p-Xylene	ND		250	248		ug/L	99	70 - 133	0	25	
Methylene Chloride	ND		250	277		ug/L	111	52 - 130	3	20	
Methyl-t-Butyl Ether (MTBE)	ND		250	269		ug/L	108	70 - 130	0	25	
Naphthalene	ND		250	268		ug/L	107	60 - 140	3	30	
n-Butylbenzene	ND		250	254		ug/L	102	61 - 149	1	20	
N-Propylbenzene	ND		250	238		ug/L	95	66 - 135	0	20	
o-Xylene	ND		250	246		ug/L	98	70 - 133	0	20	
p-Isopropyltoluene	ND		250	238		ug/L	95	70 - 130	0	20	
sec-Butylbenzene	ND		250	236		ug/L	94	67 - 134	1	20	
Styrene	ND		250	265		ug/L	106	29 - 150	2	35	
tert-Butylbenzene	ND		250	233		ug/L	93	70 - 130	1	20	
Tetrachloroethene	ND		250	246		ug/L	98	70 - 137	1	20	
Toluene	ND		250	243		ug/L	97	70 - 130	1	20	
trans-1,2-Dichloroethene	ND		250	245		ug/L	98	70 - 130	3	20	
trans-1,3-Dichloropropene	ND		250	266		ug/L	106	70 - 138	5	25	
Trichloroethene	240		250	478		ug/L	96	70 - 130	0	20	
Trichlorofluoromethane	ND		250	238		ug/L	95	60 - 150	4	25	
Vinyl chloride	ND		250	190		ug/L	76	50 - 137	6	30	

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	113		70 - 130
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	112		76 - 132
Toluene-d8 (Surr)	109		80 - 128

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID:** MB 440-481798/3

**Matrix:** Water

**Analysis Batch:** 481798

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	ug/L			06/13/18 08:01	1
<b>Surrogate</b>								
1,2-Dichloroethane-d4 (Surr)	%Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
89			70 - 130				06/13/18 08:01	1
4-Bromofluorobenzene (Surr)	104		80 - 120				06/13/18 08:01	1
Dibromofluoromethane (Surr)	94		76 - 132				06/13/18 08:01	1
Toluene-d8 (Surr)	103		80 - 128				06/13/18 08:01	1

**Lab Sample ID:** LCS 440-481798/24

**Matrix:** Water

**Analysis Batch:** 481798

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	%Rec. Limits
Tetrachloroethene		25.0	24.7		ug/L		99	70 - 130
<b>Surrogate</b>								
1,2-Dichloroethane-d4 (Surr)	%Recovery	LCS Qualifier	Limits					
84			70 - 130					
4-Bromofluorobenzene (Surr)	104		80 - 120					
Dibromofluoromethane (Surr)	90		76 - 132					
Toluene-d8 (Surr)	100		80 - 128					

**Lab Sample ID:** 440-213174-B-4 MS

**Matrix:** Water

**Analysis Batch:** 481798

**Client Sample ID:** Matrix Spike  
**Prep Type:** Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec.	%Rec. Limits
Tetrachloroethene	ND		25.0	22.8		ug/L		91	70 - 137
<b>Surrogate</b>									
1,2-Dichloroethane-d4 (Surr)	%Recovery	MS Qualifier	Limits						
91			70 - 130						
4-Bromofluorobenzene (Surr)	103		80 - 120						
Dibromofluoromethane (Surr)	94		76 - 132						
Toluene-d8 (Surr)	99		80 - 128						

**Lab Sample ID:** 440-213174-B-4 MSD

**Matrix:** Water

**Analysis Batch:** 481798

**Client Sample ID:** Matrix Spike Duplicate  
**Prep Type:** Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD	RPD Limit
Tetrachloroethene	ND		25.0	26.7		ug/L		107	70 - 137	16 / 20
<b>Surrogate</b>										
1,2-Dichloroethane-d4 (Surr)	%Recovery	MSD Qualifier	Limits							
93			70 - 130							
4-Bromofluorobenzene (Surr)	104		80 - 120							
Dibromofluoromethane (Surr)	96		76 - 132							
Toluene-d8 (Surr)	96		80 - 128							

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 440-481276/1-A**

**Matrix: Water**

**Analysis Batch: 481819**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 481276**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	ug/L		06/10/18 11:27	06/13/18 08:58	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	72		36 - 90			06/10/18 11:27	06/13/18 08:58	1

**Lab Sample ID: LCS 440-481276/2-A**

**Matrix: Water**

**Analysis Batch: 481621**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 481276**

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	
1,4-Dioxane		1.95	1.35		ug/L		69	36 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
1,4-Dioxane-d8 (Surr)	75		36 - 90					

**Lab Sample ID: 440-213182-A-1-A MS**

**Matrix: Water**

**Analysis Batch: 481621**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**

**Prep Batch: 481276**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	
1,4-Dioxane	ND		2.00	1.68		ug/L		66	12 - 100
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	72		36 - 90						

**Lab Sample ID: 440-213182-A-1-B MSD**

**Matrix: Water**

**Analysis Batch: 481621**

**Client Sample ID: Matrix Spike Duplicate**

**Prep Type: Total/NA**

**Prep Batch: 481276**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec		RPD
1,4-Dioxane	ND		2.06	1.61		ug/L		61	12 - 100	4
Surrogate	MSD %Recovery	MSD Qualifier	Limits							Limit
1,4-Dioxane-d8 (Surr)	68		36 - 90							35

# QC Association Summary

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
 SDG: Omega Chemical

## GC/MS VOA

### Analysis Batch: 481504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-212870-1	OC_SP220B_EFF_060518	Total/NA	Water	8260B	
440-212870-2	OC_SP210_INF_060518	Total/NA	Water	8260B	
440-212870-3	OC_TB_060518	Total/NA	Water	8260B	
MB 440-481504/4	Method Blank	Total/NA	Water	8260B	
LCS 440-481504/5	Lab Control Sample	Total/NA	Water	8260B	
440-212827-C-7 MS	Matrix Spike	Total/NA	Water	8260B	
440-212827-C-7 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

### Analysis Batch: 481798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-212870-2 - DL	OC_SP210_INF_060518	Total/NA	Water	8260B	
MB 440-481798/3	Method Blank	Total/NA	Water	8260B	
LCS 440-481798/24	Lab Control Sample	Total/NA	Water	8260B	
440-213174-B-4 MS	Matrix Spike	Total/NA	Water	8260B	
440-213174-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

## GC/MS Semi VOA

### Prep Batch: 481276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-212870-1	OC_SP220B_EFF_060518	Total/NA	Water	3520C	
MB 440-481276/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-481276/2-A	Lab Control Sample	Total/NA	Water	3520C	
440-213182-A-1-A MS	Matrix Spike	Total/NA	Water	3520C	
440-213182-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

### Analysis Batch: 481621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-212870-1	OC_SP220B_EFF_060518	Total/NA	Water	8270C SIM	481276
LCS 440-481276/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	481276
440-213182-A-1-A MS	Matrix Spike	Total/NA	Water	8270C SIM	481276
440-213182-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C SIM	481276

### Analysis Batch: 481819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-481276/1-A	Method Blank	Total/NA	Water	8270C SIM	481276

## Definitions/Glossary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
SDG: Omega Chemical

### Glossary

**Abbreviation** These commonly used abbreviations may or may not be present in this report.

□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-212870-1  
SDG: Omega Chemical

## Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-18 *
The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:				
Analysis Method	Prep Method	Matrix	Analyte	
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane	
8260B		Water	m,p-Xylene	
8270C SIM	3520C	Water	1,4-Dioxane	

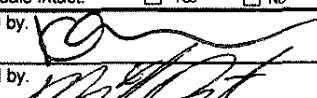
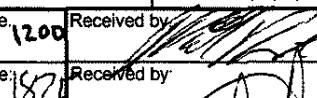
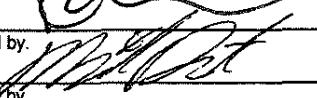
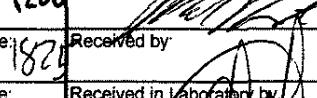
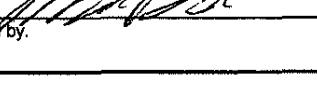
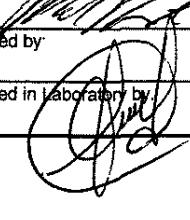
\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine

**TestAmerica Irvine**  
17461 Derian Ave  
Suite 100  
Irvine, CA 92614  
phone 949.261.1022 fax

## Chain of Custody Record

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING  
**TestAmerica Laboratories, Inc.**

Regulatory Program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input checked="" type="checkbox"/> RCRA <input type="checkbox"/> Other:							Site Contact: Khalid Azhar Date: 6/5/2018 COC No:					
Client Contact		Project Manager: Trent Henderson			Site Contact: Khalid Azhar		Date: 6/5/2018		COC No:			
De Maximis - Jaime Dinello 1322 Scott St., Suite 104 San Diego, CA 92106 (562) 756-8149		Tel/Fax: (949) 453-1045 / (949) 453-1047			Lab Contact: Danielle Roberts		Carrier:		1 of 1 COCs			
		Analysis Turnaround Time							Sampler:			
		<input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS							For Lab Use Only:			
		TAT if different from Below <u>STD</u>							Walk-in Client:			
		<input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day							Lab Sampling:			
Project Name: Omega Chemical - GWTS Monthly Site: Omega Chemical P O #:									Job / SDG No:			
Sample Identification							Sample Specific Notes:					
	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Final Sample MSDS (Y/N)	EPA 8270C-1-A-Dilution	EPA 8280B-VOCs + Fugitive	EPA 8280C-1-A-Dilution	Final Sample MSDS (Y/N)		
OC_SP220B_EFF_060518	6/5/2018	1105	Grab	GW	5	x	x					
OC_SP210_INF_060518	6/5/2018	1115	Grab	GW	3	x						
OC_TB_060518	6/5/2018	1100		H2O	2	x						
 440-212670 Chain of Custody												
Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other							Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.							<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown					
							<input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months					
Special Instructions/QC Requirements & Comments:												
Custody Seals Intact. <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No..			Cooler Temp (°C): Obs'd: <u>22</u>		Corr'd: <u>22</u>		Therm ID No: <u>TA-S66</u>			
Relinquished by: 		Company: <u>JTA</u>			Date/Time: <u>6/6/18 1200</u>		Received by: 		Company: <u>JTA</u>		Date/Time: <u>6/6/18 1200</u>	
Relinquished by: 		Company: <u>JTA</u>			Date/Time: <u>6/6/18 1825</u>		Received by: 		Company: <u>JTA</u>		Date/Time: <u></u>	
Relinquished by: 		Company: <u></u>			Date/Time: <u></u>		Received in Laboratory by: 		Company: <u>JTA 12V</u>		Date/Time: <u>6/6/18 1825</u>	

## Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-212870-1  
SDG Number: Omega Chemical

**Login Number:** 212870

**List Source:** TestAmerica Irvine

**List Number:** 1

**Creator:** Soderblom, Tim

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		
The cooler's custody seal, if present, is intact.	N/A	Not present	
Sample custody seals, if present, are intact.	N/A	Not Present	
The cooler or samples do not appear to have been compromised or tampered with.	True		
Samples were received on ice.	True		
Cooler Temperature is acceptable.	True		
Cooler Temperature is recorded.	True		
COC is present.	True		
COC is filled out in ink and legible.	True		
COC is filled out with all pertinent information.	True		
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.	
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		

## **ATTACHMENT E**

### **Operational Data Summaries**

**Attachment E, Table E-1**  
**Hydraulic Containment Extraction Well Operational Summary**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Second Quarter 2018**

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate <sup>1</sup> (gpm)	Average Flow Rate <sup>2</sup> (gpm)
EW-1	April 2018	0	0	0	0
	May 2018	0	0	0	0
	June 2018	0	0	0	0
	2nd Quarter 2018	0	0	0	0
EW-2	April 2018	0	0	0	0
	May 2018	0	0	0	0
	June 2018	0	0	0	0
	2nd Quarter 2018	0	0	0	0
EW-3	April 2018	13.3	2147	2.70	0.05
	May 2018	32.4	5,539	2.85	0.12
	June 2018	2.18	355	2.72	0.01
	2nd Quarter 2018	47.8	8,041	2.76	0.06
EW-4	April 2018	45.6	3,581	1.31	0.08
	May 2018	110	5,834	0.88	0.13
	June 2018	11.5	1,854	2.69	0.04
	2nd Quarter 2018	167	11,269	1.63	0.09
EW-5	April 2018	20.2	5,956	4.92	0.14
	May 2018	38.7	11,811	5.09	0.26
	June 2018	14.2	4,215	4.94	0.10
	2nd Quarter 2018	73.1	21,981	4.98	0.17

Notes:

1. Operational flow rate calculated from total gallons processed in the month and hours the pump actually operated in the month.
2. Average flow rate is calculated from total gallons processed in the month and total hours in the month, regardless of pump uptime.
3. Hour meter indicated the pump motor experienced short and intermittent periods of being energized, but the pump itself did not discharge.

All extraction wells operate on/off based on water levels measured by pressure transducers installed in each well.

hrs = hours

gal = gallons

gpm = gallons per minute

**Attachment E, Table E-2**  
**Vapor Phase GAC Operational Data Demonstrating Substantive Compliance with SCAQMD Regulations**  
**Second Quarter 2018**

SCAQMD Limit		1000	145			3.6		
HRA Changeout Criteria					12 <sup>3</sup>		90 <sup>3</sup>	
Date	Influent Vapor Relative Humidity (%)	Influent Vapor Flow Rate (SCFM)	Influent Vapor Temperature (°F)	Influent PID Measurement (ppmv)	Intermediate PID Measurement (ppmv)	Effluent PID Measurement (ppmv)	Lead VGAC Efficiency <sup>1</sup> (%)	Overall VGAC Efficiency <sup>2</sup> (%)
4/4/2018	15.4	675	95.9	0.471	0.000	0.000	100	100
4/11/2018	15.5	696	102.6	1.355	0.235	0.005	83	100
4/18/2018	15.2	682	99.5	1.248	0.067	0.015	95	99
4/24/2018	15.4	689	99.0	0.452	0.000	0.000	100	100
5/2/2018	15.2	683	96.9	0.617	0.031	0.000	95	100
5/9/2018	15.5	688	100.6	0.752	0.187	0.148	75	80
5/15/2018	15.6	687	100.0	0.556	0.000	0.000	100	100
5/23/2018	15.5	685	98.9	0.639	0.036	0.000	94	100
5/30/2018	15.6	681	99.9	0.426	0.024	0.000	94	100
6/5/2018	15.5	678	100.1	0.495	0.065	0.000	87	100
6/13/2018	16.0	681	105.5	1.101	0.144	0.000	87	100
6/21/2018	15.9	685	103.2	0.861	0.571	0.185	34	79
6/27/2018	15.8	685	101.5	1.193	0.134	0.000	89	100
<b>2nd Quarter 2018</b>	<b>15.5</b>	<b>684</b>	<b>100.3</b>	<b>0.812</b>	<b>0.123</b>	<b>0.027</b>	<b>85</b>	<b>97</b>
<b>Compliance with SCAQMD Limits?</b>		<b>YES</b>	<b>YES</b>			<b>YES</b>		
<b>Carbon changeout required this quarter?</b>					<b>NO</b>		<b>NO</b>	

Notes:

°F = degrees Fahrenheit

SCFM = Standard Cubic Feet per Minute

PID = photoionization detector

VGAC = vapor phase granular activated carbon

GAC = granular activated carbon

ppmv = parts per million by volume as hexane

SCAQMD HRA = South Coast Air Quality Management District Health Risk Assessment

1. Lead VGAC efficiency is calculated by the PID readings between the influent and intermediate.

2. Overall VGAC efficiency is calculated by the PID readings between the influent and effluent.

3. These limits by the SCAQMD Health Risk Assessment are for determining when a carbon changeout is required. **BOTH** limits for intermediate PID concentration and the lead VGAC efficiency must be exceeded during the same sampling event for the changeout requirement to take effect.

**From:** "Reed, Alesandra F." <reedaf@cdmsmith.com>  
**To:** "jdinello@demaximis.com" <jdinello@demaximis.com>, Coons Merry <mcoons@demaximis.com>, Modiano Ed <edm@demaximis.com>, Collins Jake <jcollins@demaximis.com>, Lapiers Spencer <SLapiers@demaximis.com>  
**CC:** "Bamer, Jeffrey" <BamerJT@cdmsmith.com>, Khalid Azhar <kazhar@jacobandhefner.com>, "Trent Henderson" <thenderson@jacobandhefner.com>  
**Date:** 5/22/2018 3:32 PM  
**Subject:** GWCS April GAC Assessment  
**Attachments:** Omega OU-1 GWCS GAC Changeout Assessment\_Apr2018.xlsx

Team,

We evaluated the performance of the GAC used by the OU-1 GWCS system for the month of April 2018, relative to the conditions listed in the Health Risk Assessment (HRA) (CDM Smith 2015). These conditions must be met to remain in substantive compliance with SCAQMD requirements.

During the month of April, the OU-1 GWCS system has met the conditions presented in the HRA and was therefore substantively compliant (see table below):

- None of the toxic air contaminants listed in Condition #14 of the HRA were detected in the effluent above their respective effluent limit.
- The GWCS did not meet the two criteria for replacement of the lead GAC vessel (listed under Condition #12 of the HRA), and therefore no GAC replacement was required.
- No other carcinogenic air contaminants beyond those listed in Condition #14 of the HRA were detected in effluent above 10 ppbv, and therefore per Condition #16, no toxic risk assessment was required.

We also evaluated all the analytical and PID data and, based on our professional judgement, we do not recommend a voluntary changeout of the lead vessel GAC at this time.

Parameter	Concentration (ppbv)				Substantively Compliant?
	Influent	Midpoint	Effluent	HRA Effluent Limit	
1,1,1-Trichloroethane (TCA)	1.1	1.2	1.2	3	Yes
1,1-Dichloroethane	1.1	1.2	1.2	18	Yes
1,1-Dichloroethene	24	23	18	140	Yes
1,2-Dichloroethane	1.7	1.5	1.2	12	Yes
Benzene	1.1	1.2	1.2	12	Yes
Carbon disulfide	4.4	4.9	4.6	690	Yes
Chloroform	6.7	6.4	5	95	Yes
Freon 11	8.2	8.9	7.5	4,200	Yes
Freon 113	23	20	18	510	Yes
Freon 12	1.1	1.2	1.2	249	Yes
Isopropyl Alcohol (Isopropanol)	4.4	4.9	4.6	29	Yes
o-Xylene	1.1	1.2	1.2	3	Yes
Methyl ethyl ketone	4.4	4.9	4.6	24	Yes
Methylene chloride	11	12	12	6,900	Yes
Tetrachloroethene (PCE)	90	1.2	1.2	28	Yes
TNmOC ref. to Heptane (MW=100)	310	92	92	4177	Yes
Toluene	1.1	1.2	1.2	42	Yes
Trichloroethene (TCE)	13	1.2	1.2	12	Yes
Vinyl chloride	1.1	1.2	1.2	230	Yes

Please let us know if you have any questions or wish to discuss these data further.

Thanks!  
Alesandra

Alesandra Reed, P.E.  
 Environmental Engineer  
 CDM Smith  
 555 17<sup>th</sup> St. #500  
 Denver, CO 80202  
 Mobile: (352) 222-2583  
 Office: (303) 383-2475

**From:** "Reed, Alesandra F." <reedaf@cdmsmith.com>  
**To:** "jdinello@demaximis.com" <jdinello@demaximis.com>, Coons Merry <mcoons@demaximis.com>, Modiano Ed <edm@demaximis.com>, Collins Jake <jcollins@demaximis.com>, Lapiers Spencer <Slapiers@demaximis.com>  
**CC:** "Bamer, Jeffrey" <BamerJT@cdmsmith.com>, Khalid Azhar <kazhar@jacobandhefner.com>, "Trent Henderson" <thenderson@jacobandhefner.com>  
**Date:** 5/25/2018 5:01 PM  
**Subject:** OU-1 GWCS - May 2018 GAC Performance Assessment  
**Attachments:** Omega OU-1 GWCS GAC Changeout Assessment\_May 2018.xlsx

Team,

We evaluated the performance of the GAC used by the OU-1 GWCS system for the month of May 2018, relative to the conditions listed in the Health Risk Assessment (HRA) (CDM Smith 2015). These conditions must be met to remain in substantive compliance with SCAQMD requirements.

So far during the month of May, the OU-1 GWCS system has met the conditions presented in the HRA and was therefore substantively compliant (see table below):

- None of the toxic air contaminants listed in Condition #14 of the HRA were detected in the effluent above their respective effluent limit.
- The GWCS did not meet the two criteria for replacement of the lead GAC vessel (listed under Condition #12 of the HRA), and therefore no GAC replacement was required.
- No other carcinogenic air contaminants beyond those listed in Condition #14 of the HRA were detected in effluent above 10 ppbv, and therefore per Condition #16, no toxic risk assessment was required.

We also evaluated all the analytical and PID data and, based on our professional judgement, we do not recommend a voluntary changeout of the lead vessel GAC at this time.

Parameter	Concentration (ppbv)				Substantively Compliant?
	Influent	Midpoint	Effluent	HRA Effluent Limit	
1,1,1-Trichloroethane (TCA)	1.2	1.1	1.1	3	Yes
1,1-Dichloroethane	1.2	1.1	1.1	18	Yes
1,1-Dichloroethene	21	19	14	140	Yes
1,2-Dichloroethane	1.4	1.3	1.1	12	Yes
Benzene	1.2	1.1	1.1	12	Yes
Carbon disulfide	4.7	4.4	4.6	690	Yes
Chloroform	5.8	6	4.5	95	Yes
Freon 11	7.9	7.8	7.2	4,200	Yes
Freon 113	23	20	18	510	Yes
Freon 12	1.2	1.1	1.1	249	Yes
Isopropyl Alcohol (Isopropanol)	4.7	4.4	4.6	29	Yes
o-Xylene	1.1	1.2	1.2	3	Yes
Methyl ethyl ketone	4.4	4.9	4.6	24	Yes
Methylene chloride	12	11	11	6,900	Yes
Tetrachloroethene (PCE)	88	1.1	1.1	28	Yes
TNMOC ref. to Heptane (MW=100)	190	42	54	4,177	Yes
Toluene	1.2	1.1	1.1	42	Yes
Trichloroethene (TCE)	12	1.1	1.1	12	Yes
Vinyl chloride	1.2	1.1	1.1	230	Yes

Please let us know if you have any questions or wish to discuss these data further.

Thanks!  
Alesandra

Alesandra Reed, P.E.  
 Environmental Engineer  
 CDM Smith  
 555 17<sup>th</sup> St. #500  
 Denver, CO 80202  
 Mobile: (352) 222-2583  
 Office: (303) 383-2475

## Merry Coons - OU-1 GWCS - June GAC Performance Assessment

---

**From:** "Reed, Alesandra F." <reedaf@cdmsmith.com>  
**To:** "'jdinello@demaximis.com'" <jdinello@demaximis.com>, Lapiers Spencer <SL...>  
**Date:** 6/25/2018 10:59 PM  
**Subject:** OU-1 GWCS - June GAC Performance Assessment  
**Cc:** Coons Merry <mcoons@demaximis.com>, Khalid Azhar <kazhar@jacobandhefner....>  
**Attachments:** Omega OU-1 GWCS GAC Changeout Assessment\_June 2018.xlsx

---

Team,

We evaluated the performance of the GAC used by the OU-1 GWCS system for the month of June 2018, relative to the conditions listed in the Health Risk Assessment (HRA) (CDM Smith 2015). These conditions must be met to remain in substantive compliance with SCAQMD requirements.

So far during the month of June, the OU-1 GWCS system has met the conditions presented in the HRA and was therefore substantively compliant (see table below):

- None of the toxic air contaminants listed in Condition #14 of the HRA were detected in the effluent above their respective effluent limit.
- The GWCS did not meet the two criteria for replacement of the lead GAC vessel (listed under Condition #12 of the HRA), and therefore no GAC replacement was required.
- No other carcinogenic air contaminants beyond those listed in Condition #14 of the HRA were detected in effluent above 10 ppbv, and therefore per Condition #16, no toxic risk assessment was required.

We also evaluated all the analytical and PID data and, based on our professional judgement, we do not recommend a voluntary changeout of the lead vessel GAC at this time.

### OU-1 GWCS GAC Assessment - Based on Samples Collected June 5, 2018

Parameter	Concentration (ppbv)				Substantively Compliant?
	Influent	Midpoint	Effluent	HRA Effluent Limit	
1,1,1-Trichloroethane (TCA)	1.2	1.1	1.1	3	Yes
1,1-Dichloroethane	1.2	1.1	1.1	18	Yes
1,1-Dichloroethene	20	23	17	140	Yes
1,2-Dichloroethane	1.5	1.6	1.1	12	Yes

Benzene	1.2	1.1	1.1	12	Yes
Carbon disulfide	4.6	4.6	4.5	690	Yes
Chloroform	5.6	6.5	4.4	95	Yes
Freon 11	7.4	8.4	8.1	4,200	Yes
Freon 113	23	23	21	510	Yes
Freon 12	1.2	1.1	1.1	249	Yes
Isopropyl Alcohol (Isopropanol)	4.6	4.6	4.5	29	Yes
o-Xylene	1.2	1.1	1.1	3	Yes
Methyl ethyl ketone	4.6	4.6	4.5	24	Yes
Methylene chloride	12	11	11	6,900	Yes
Tetrachloroethene (PCE)	86	1.1	1.1	28	Yes
TNMOC ref. to Heptane (MW=100)	180	46	68	4177	Yes
Toluene	1.2	1.1	1.1	42	Yes
Trichloroethene (TCE)	11	1.1	1.1	12	Yes
Vinyl chloride	1.2	1.1	1.1	230	Yes

Please let us know if you have any questions or wish to discuss these data further.

Thanks!  
Alesandra

**Alesandra Reed, P.E.**  
 Environmental Engineer  
CDM Smith  
 555 17<sup>th</sup> St. #500  
 Denver, CO 80202  
 Mobile: (352) 222-2583  
 Office: (303) 383-2475

## **ATTACHMENT F**

# **Sanitation District of Los Angeles County Industrial Self-Monitoring Report**

**OMEGA CHEMICAL SITE PRP ORGANIZED GROUP**

---

1322 Scott Street, Suite 104  
San Diego, Ca 92106  
(619) 546-8377  
(619) 546-9980 FAX  
e-mail: [edm@demaximis.com](mailto:edm@demaximis.com)

July 12, 2018

Ms. Grace Robinson Hyde  
Chief Engineer and General Manager  
County Sanitation Districts of Los Angeles County  
1955 Workman Mill Road  
Whittier, CA 90601-1400

Subject:        Self-Monitoring Report -2nd Quarter 2018  
                  Permit Number 20039, Surcharge Account Number 2113183

Dear Ms. Grace Robinson Hyde,

This letter transmits the 2nd Quarter 2018 Self-Monitoring Report (SMR) for the Omega Chemical Site located at 12520 East Whittier Blvd, Whittier, California. Feel free to contact me if you need any additional information.

Sincerely,

Omega Chemical Site PRP Organized Group



Edward Modiano  
Project Coordinator



GRACE ROBINSON HYDE  
CHIEF ENGINEER  
AND GENERAL MANAGER

Page 1 of 4  
Permit Number:  
**20039**  
Facility ID:  
**2113183**

For information, please call Loretta Benites  
(562) 699-7411 Ext. 2927

### INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Reporting Period From: 04/01/2018 To: 06/30/2018 Report Due No Later Than : 07/16/2018

Company Name: Omega Chemical Site PRP Group LLC

Wastewater Discharge Address: 12520 WHITTIER Blvd Whittier, CA, 90602

Sample Location: 20039A

Mailing Address: 1322 Scott Street # 104 San Diego, CA, 92106

Industrial Wastewater Contact Name and Phone Number: Mr. Ravi Subramanian

949-752-5452 x277 - Business

Has Ownership or Occupancy Changed Since the Last Report?  Yes  No

(Print) Name of Company Collecting Wastewater Sample:

(Print) Sample Date:

Test America

5/18/18

Daily Wastewater Discharge for Reporting Period

Average: 8,918 GPD

Method For Determining Wastewater Flow for Sampling Day

Direct Measurement

Type of Composite Sample

Adjusted Metered Water Supply

Time Composite

Maximum: 10,086 GPD

No Discharge During Reporting Period

Flow Proportioned Composite

Comments:

Parameter (1)	Sample Method (2)	Permit Limit (3)	Test Results (4)	Reporting Limit (5)	Unit (6)	Lab ID Code (7)
Z02 Sample Day Peak Flow			7.1		gpm	N/A
Z01 Sample Day Total Flow			8552		gpd	N/A
101 pH	GRAB	Federal Daily Minimum 5.0 S.U. Local Daily Minimum 6.0 S.U.	8.7		S.U.	10256
151 Solids, Suspended	COMPOSITE		1.7		mg/L	10256
252 Sulfide, Soluble	GRAB	Local At Any Time 0.1 mg/L	ND	.05	mg/L	10256
403 COD, Total	COMPOSITE		22		mg/L	10256
696 1,4-Dioxane	GRAB		15		ug/L	10256
T09 TTO, Volatile	GRAB	Local At Any Time 1000 ug/L	LACSD calculates this value.		ug/L	10256
601 Methylene Chloride	GRAB		ND	5	ug/L	10256
602 Chloroform	GRAB		ND	1	ug/L	10256
603 1,1,1-Trichloroethane	GRAB		ND	1	ug/L	10256
604 Carbon Tetrachloride	GRAB		ND	.5	ug/L	10256
605 1,1-Dichloroethene	GRAB		ND	1	ug/L	10256
606 Trichloroethylene	GRAB		ND	1	ug/L	10256
607 Tetrachloroethylene	GRAB		ND	1	ug/L	10256
608 Bromodichloromethane	GRAB		ND	1	ug/L	10256
609 Dibromochloromethane	GRAB		ND	1	ug/L	10256
610 Bromoform	GRAB		ND	1	ug/L	10256
611 Chlorobenzene	GRAB		ND	1	ug/L	10256
612 Vinyl Chloride	GRAB		ND	.5	ug/L	10256
613 o-Dichlorobenzene	GRAB		ND	1	ug/L	10256
614 m-Dichlorobenzene	GRAB		ND	1	ug/L	10256

Please submit this report to: Sanitation Districts of Los Angeles County - Industrial Waste Section P.O. Box 4998 Whittier, CA 90607-4998

## INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 07/16/2018

Page 2 of 4

Permit Number:

20039

Facility ID:

2113183

Company Name: Omega Chemical Site PRP Group LLC

Sample Location: 20039A Reporting Period From: 04/01/2018 To: 06/30/2018

<u>Parameter (1)</u>	<u>Sample Method (2)</u>	<u>Permit Limit (3)</u>	<u>Test Results (4)</u>	<u>Reporting Limit (5)</u>	<u>Unit (6)</u>	<u>Lab ID Code (7)</u>
615 p-Dichlorobenzene	GRAB		ND	1	ug/L	1025b
616 1,1-Dichloroethane	GRAB		ND	1	ug/L	1025b
618 1,1,2-Trichloroethane	GRAB		ND	1	ug/L	1025b
619 1,2-Dichloroethane	GRAB		ND	1	ug/L	1025b
620 Benzene	GRAB		ND	.5	ug/L	1025b
621 Toluene	GRAB		ND	1	ug/L	1025b
624 Ethyl Benzene	GRAB		ND	1	ug/L	1025b
645 trans-1,2-Dichloroethylene	GRAB		ND	1	ug/L	1025b
646 Bromomethane	GRAB		ND	1	ug/L	1025b
647 Chloroethane	GRAB		ND	1	ug/L	1025b
648 2-Chloroethylvinylether	GRAB		ND	2	ug/L	1025b
649 Chloromethane	GRAB		ND	1	ug/L	1025b
650 1,2-Dichloropropane	GRAB		ND	1	ug/L	1025b
651 cis-1,3-Dichloropropene	GRAB		ND	.5	ug/L	1025b
652 trans-1,3-Dichloropropene	GRAB		ND	.5	ug/L	1025b
653 1,1,2,2-Tetrachloroethane	GRAB		ND	1	ug/L	1025b
T10 TTO, Semi-Volatile	GRAB	Local At Any Time 1000 ug/L	LACSD calculates this value.		ug/L	
800 Acenaphthene	GRAB		ND	11	ug/L	1025b
801 Acenaphthylene	GRAB		ND	11	ug/L	1025b
802 Anthracene	GRAB		ND	11	ug/L	1025b
803 Benzidine	GRAB		ND	42	ug/L	1025b
804 Benzo(a)anthracene	GRAB		ND	11	ug/L	1025b
805 Benzo(a)pyrene	GRAB		ND	11	ug/L	1025b
806 Benzo(b)fluoranthene	GRAB		ND	11	ug/L	1025b
807 Benzo(g,h,i.)perylene	GRAB		ND	11	ug/L	1025b
808 Benzo(k)fluoranthene	GRAB		ND	11	ug/L	1025b
809 Bis(2-cl-ethoxy)methane	GRAB		ND	11	ug/L	1025b
810 Bis(2-chloroethyl)ether	GRAB		ND	11	ug/L	1025b
811 Bis(2-cl-isopropyl)ether	GRAB		ND	11	ug/L	1025b
812 bis(2-ethylhexyl) Phthalate	GRAB		ND	21	ug/L	1025b
813 4-bromophenyl Phenylether	GRAB		ND	11	ug/L	1025b
814 butylbenzyl Phthalate	GRAB		ND	21	ug/L	1025b
815 2-Chloronaphthalene	GRAB		ND	11	ug/L	1025b
816 4-Chlorophenylphenylether	GRAB		ND	11	ug/L	1025b
817 Chrysene	GRAB		ND	11	ug/L	1025b
818 dibenzo(a,h)Anthracene	GRAB		ND	21	ug/L	1025b
822 3,3-Dichlorobenzidine	GRAB		ND	42	ug/L	1025b
823 diethyl Phthalate	GRAB		ND	11	ug/L	1025b

# INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 07/16/2018

Company Name: Omega Chemical Site PRP Group LLC

Sample Location: 20039A Reporting Period From: 04/01/2018 To: 06/30/2018

Page 3 of 4

Permit Number:

20039

Facility ID:

2113183

<u>Parameter (1)</u>	<u>Sample Method (2)</u>	<u>Permit Limit (3)</u>	<u>Test Results (4)</u>	<u>Reporting Limit (5)</u>	<u>Unit (6)</u>	<u>Lab ID Code (7)</u>
824 dimethyl Phthalate	GRAB		ND	11	ug/L	1025b
825 di-n-butyl Phthalate	GRAB		ND	21	ug/L	1025b
826 2,4-Dinitrotoluene	GRAB		ND	11	ug/L	1025b
827 2,6-Dinitrotoluene	GRAB		ND	11	ug/L	1025b
828 di-n-octyl Phthalate	GRAB		ND	21	ug/L	1025b
829 1,2-Diphenylhydrazine	GRAB		ND	21	ug/L	1025b
830 Fluoranthene	GRAB		ND	11	ug/L	1025b
831 Fluorene	GRAB		ND	11	ug/L	1025b
832 Hexachlorobenzene	GRAB		ND	11	ug/L	1025b
833 Hexachlorobutadiene	GRAB		ND	11	ug/L	1025b
834 Hexachlorocyclopentadiene	GRAB		ND	21	ug/L	1025b
835 Hexachloroethane	GRAB		ND	11	ug/L	1025b
836 Indeno(1,2,3-c,d)Pyrene	GRAB		ND	21	ug/L	1025b
837 Isophorone	GRAB		ND	11	ug/L	1025b
838 Naphthalene	GRAB		ND	11	ug/L	1025b
839 Nitrobenzene	GRAB		ND	21	ug/L	1025b
840 n-Nitrosodimethylamine	GRAB		ND	11	ug/L	1025b
841 n-Nitrosodi-n-Propylamine	GRAB		ND	11	ug/L	1025b
842 Phenanthrene	GRAB		ND	11	ug/L	1025b
843 Pyrene	GRAB		ND	11	ug/L	1025b
845 2-Chlorophenol (Organic-BNA)	GRAB		ND	11	ug/L	1025b
846 1,2,4-Trichlorobenzene	GRAB		ND	11	ug/L	1025b
847 2,4-Dichlorophenol (Organic-BNA)	GRAB		ND	11	ug/L	1025b
848 2,4-Dimethylphenol (Organic-BNA)	GRAB		ND	21	ug/L	1025b
849 2,4-Dinitrophenol	GRAB		ND	42	ug/L	1025b
850 2-methyl-4,6-dinitrophenol	GRAB		ND	21	ug/L	1025b
851 2-Nitrophenol	GRAB		ND	11	ug/L	1025b
852 4-Nitrophenol	GRAB		ND	21	ug/L	1025b
853 4-chloro-3-Methylphenol (Organic-BNA)	GRAB		ND	21	ug/L	1025b
854 Pentachlorophenol (Organic-BNA)	GRAB		ND	21	ug/L	1025b
855 Phenol	GRAB		ND	11	ug/L	1025b
856 2,4,6-Trichlorophenol	GRAB		ND	21	ug/L	1025b
857 n-Nitrosodiphenylamine	GRAB		ND	11	ug/L	1025b

# INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 07/16/2018

Page 4 of 4

Permit Number:

20039

Facility ID:

2113183

Company Name: Omega Chemical Site PRP Group LLC

Sample Location: 20039A Reporting Period From: 04/01/2018 To: 06/30/2018

(1) Report the test results from the most recent sample collected within the reporting period and include all laboratory test sheets with the self-monitoring report form.

(2) Test results are valid only if the correct sampling method is observed and the laboratory analysis is performed by a State or Sanitation Districts approved laboratory.

(3) Permit limits are included on this form for convenience. For a full list of all applicable permit limits, refer to your Permit Data Sheet.

(4) Enter "ND" (Non Detect) for any result less than (<) the reporting limit.

(5) If the test result is "ND", enter the reporting limit; otherwise leave blank. The reporting limit can be found in your laboratory test sheet.

(6) Default units are listed. Cross out and write in applicable units if laboratory did not report results with these same units.

(7) Indicate the appropriate laboratory certification I.D. code for each testing parameter.

## CERTIFICATION BY PERMITTEE

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of responsible company official:

*CD Modiano*

Date:

*7/12/18*

Print name of official:

*CD modiano*

Title:

*Project Coordinator*

LACSD USE ONLY

Lab Report?  Yes  No

Signature?  Yes  No

Date Received: \_\_\_\_\_

Monitoring ID: 558540

Initials: \_\_\_\_\_

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-211591-1

TestAmerica Sample Delivery Group: Whittier, CA

Client Project/Site: Omega Chemical WW 24 Hour Composite

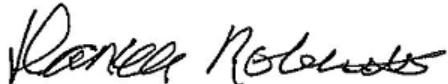
For:

Jacob & Hefner Associates P.C.

15375 Barranca Parkway, J-101

Irvine, California 92618

Attn: Trent Henderson



Authorized for release by:

5/26/2018 7:18:40 AM

Danielle Roberts, Senior Project Manager

(949)261-1022

danielle.roberts@testamericainc.com

### LINKS

Review your project  
results through

TotalAccess

Have a Question?

Ask  
The  
Expert

Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Sample Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-211591-1	Composite	Water	05/18/18 08:00	05/18/18 14:45
440-211591-2	Grab	Water	05/18/18 08:10	05/18/18 14:45

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TestAmerica Irvine

# Case Narrative

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Job ID: 440-211591-1

### Laboratory: TestAmerica Irvine

#### Narrative

#### Job Narrative 440-211591-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 5/18/2018 2:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

#### GC/MS VOA

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-478012 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 440-478012 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270C: The laboratory control sample (LCS) for preparation batch 440-477895 and analytical batch 440-478357 recovered outside control limits for the following analytes: Hexachlorocyclopentadiene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270C: The percent recovery of Benzidine in the laboratory control sample (LCS) for preparation batch 440-477895 and analytical batch 440-478357 was below the method detection limit (MDL). Despite the recovery meeting percent limits, the response cannot be considered valid. Per the EPA method, this compound is subject to oxidative loss during sample preparation and as a consequence yields erratic recoveries. As a result, benzidine is reported with possible low bias for the following samples:

(LCSD 440-477895/3-A)

Method(s) 8270C SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-477875 and analytical batch 440-478024. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-477875/3-A). Method 8270C-SIM.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Detection Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

### Client Sample ID: Composite

### Lab Sample ID: 440-211591-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	1.7		1.0	mg/L	1		SM 2540D	Total/NA
Chemical Oxygen Demand	22		20	mg/L	1		SM 5220D	Total/NA

### Client Sample ID: Grab

### Lab Sample ID: 440-211591-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	15		0.52	ug/L	1		8270C SIM	Total/NA
pH	8.7	HF	0.1	SU	1		SM 4500 H+ B	Total/NA
Field pH	8.24			SU	1		Field Sampling	Total/NA
Field Temperature	65.3			Fahrenheit	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Client Sample ID: Composite

Date Collected: 05/18/18 08:00

Date Received: 05/18/18 14:45

## Lab Sample ID: 440-211591-1

Matrix: Water

### General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	1.7		1.0	mg/L			05/23/18 15:33	1
Chemical Oxygen Demand	22		20	mg/L			05/24/18 15:37	1

## Client Sample ID: Grab

Date Collected: 05/18/18 08:10

Date Received: 05/18/18 14:45

## Lab Sample ID: 440-211591-2

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			05/23/18 10:45	1
Acrolein	ND		5.0	ug/L			05/21/18 09:36	1
1,1,1-Trichloroethane	ND		1.0	ug/L			05/23/18 10:45	1
Acrylonitrile	ND		2.0	ug/L			05/21/18 09:36	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			05/23/18 10:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			05/23/18 10:45	1
2-Chloroethyl vinyl ether	ND		2.0	ug/L			05/21/18 09:36	1
1,1,2-Trichloroethane	ND		1.0	ug/L			05/23/18 10:45	1
1,1-Dichloroethane	ND		1.0	ug/L			05/23/18 10:45	1
1,1-Dichloroethene	ND		1.0	ug/L			05/23/18 10:45	1
Total Volatile Organic Compounds	ND		150	ug/L			05/21/18 09:36	1
1,1-Dichloropropene	ND		1.0	ug/L			05/23/18 10:45	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			05/23/18 10:45	1
1,2,3-Trichloropropane	ND		1.0	ug/L			05/23/18 10:45	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			05/23/18 10:45	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			05/23/18 10:45	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			05/23/18 10:45	1
1,2-Dichlorobenzene	ND		1.0	ug/L			05/23/18 10:45	1
1,2-Dichloroethane	ND		1.0	ug/L			05/23/18 10:45	1
1,2-Dichloropropane	ND		1.0	ug/L			05/23/18 10:45	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
1,3-Dichlorobenzene	ND		1.0	ug/L			05/23/18 10:45	1
1,3-Dichloropropane	ND		1.0	ug/L			05/23/18 10:45	1
1,4-Dichlorobenzene	ND		1.0	ug/L			05/23/18 10:45	1
2,2-Dichloropropane	ND		1.0	ug/L			05/23/18 10:45	1
2-Chlorotoluene	ND		1.0	ug/L			05/23/18 10:45	1
4-Chlorotoluene	ND		1.0	ug/L			05/23/18 10:45	1
Benzene	ND		0.50	ug/L			05/23/18 10:45	1
Bromobenzene	ND		1.0	ug/L			05/23/18 10:45	1
Bromochloromethane	ND		1.0	ug/L			05/23/18 10:45	1
Bromodichloromethane	ND		1.0	ug/L			05/23/18 10:45	1
Bromoform	ND		1.0	ug/L			05/23/18 10:45	1
Bromomethane	ND		1.0	ug/L			05/23/18 10:45	1
Carbon tetrachloride	ND		0.50	ug/L			05/23/18 10:45	1
Chlorobenzene	ND		1.0	ug/L			05/23/18 10:45	1
Chloroethane	ND		1.0	ug/L			05/23/18 10:45	1
Chloroform	ND		1.0	ug/L			05/23/18 10:45	1
Chloromethane	ND		1.0	ug/L			05/23/18 10:45	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			05/23/18 10:45	1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Client Sample ID: Grab

Date Collected: 05/18/18 08:10

Date Received: 05/18/18 14:45

## Lab Sample ID: 440-211591-2

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	ug/L			05/23/18 10:45	1
Dibromochloromethane	ND		1.0	ug/L			05/23/18 10:45	1
Dibromomethane	ND		1.0	ug/L			05/23/18 10:45	1
Dichlorodifluoromethane	ND		1.0	ug/L			05/23/18 10:45	1
Ethylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
Hexachlorobutadiene	ND		1.0	ug/L			05/23/18 10:45	1
Isopropylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
m,p-Xylene	ND		1.0	ug/L			05/23/18 10:45	1
Methylene Chloride	ND		5.0	ug/L			05/23/18 10:45	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			05/23/18 10:45	1
Naphthalene	ND		1.0	ug/L			05/23/18 10:45	1
n-Butylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
N-Propylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
o-Xylene	ND		1.0	ug/L			05/23/18 10:45	1
p-Isopropyltoluene	ND		1.0	ug/L			05/23/18 10:45	1
sec-Butylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
Styrene	ND		1.0	ug/L			05/23/18 10:45	1
tert-Butylbenzene	ND		1.0	ug/L			05/23/18 10:45	1
Tetrachloroethene	ND		1.0	ug/L			05/23/18 10:45	1
Toluene	ND		1.0	ug/L			05/23/18 10:45	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			05/23/18 10:45	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			05/23/18 10:45	1
Trichloroethene	ND		1.0	ug/L			05/23/18 10:45	1
Trichlorofluoromethane	ND		1.0	ug/L			05/23/18 10:45	1
Vinyl chloride	ND		0.50	ug/L			05/23/18 10:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		80 - 120		05/21/18 09:36	1
Dibromofluoromethane (Surr)	100		76 - 132		05/21/18 09:36	1
Toluene-d8 (Surr)	97		80 - 128		05/21/18 09:36	1
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		05/21/18 09:36	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 130		05/23/18 10:45	1
4-Bromofluorobenzene (Surr)	102		80 - 120		05/23/18 10:45	1
Dibromofluoromethane (Surr)	97		76 - 132		05/23/18 10:45	1
Toluene-d8 (Surr)	105		80 - 128		05/23/18 10:45	1

### Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	ug/L			05/24/18 12:55	1
Isopropyl alcohol	ND		250	ug/L			05/24/18 12:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 130		05/24/18 12:55	1
4-Bromofluorobenzene (Surr)	92		80 - 120		05/24/18 12:55	1
Dibromofluoromethane (Surr)	102		76 - 132		05/24/18 12:55	1
Toluene-d8 (Surr)	96		80 - 128		05/24/18 12:55	1

### Method: 8270C SIM - 1,4 Dioxane by SIM

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15		0.52	ug/L		05/22/18 12:28	05/23/18 14:40	1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Client Sample ID: Grab

Date Collected: 05/18/18 08:10

Date Received: 05/18/18 14:45

## Lab Sample ID: 440-211591-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	52		36 - 90	05/22/18 12:28	05/23/18 14:40	1

### Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
1,2-Dichlorobenzene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
1,2-Diphenylhydrazine(as Azobenzene)	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
1,3-Dichlorobenzene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
1,4-Dichlorobenzene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,4,5-Trichlorophenol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,4,6-Trichlorophenol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,4-Dichlorophenol	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,4-Dimethylphenol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,4-Dinitrophenol	ND		42	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,4-Dinitrotoluene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2,6-Dinitrotoluene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2-Chloronaphthalene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2-Chlorophenol	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2-Methylnaphthalene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2-Methylphenol	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
2-Nitroaniline	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
2-Nitrophenol	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
3,3'-Dichlorobenzidine	ND		42	ug/L	05/22/18 14:38	05/24/18 17:56		1
3-Methylphenol + 4-Methylphenol	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
3-Nitroaniline	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
4,6-Dinitro-2-methylphenol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
4-Bromophenyl phenyl ether	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
4-Chloro-3-methylphenol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
4-Chloroaniline	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
4-Chlorophenyl phenyl ether	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
4-Nitroaniline	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
4-Nitrophenol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
Acenaphthene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Acenaphthylene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Aniline	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Anthracene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzidine	ND *		42	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzo[a]anthracene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzo[a]pyrene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzo[b]fluoranthene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzo[g,h,i]perylene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzo[k]fluoranthene	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzoic acid	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
Benzyl alcohol	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
bis (2-chloroisopropyl) ether	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Bis(2-chloroethoxy)methane	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Bis(2-chloroethyl)ether	ND		11	ug/L	05/22/18 14:38	05/24/18 17:56		1
Bis(2-ethylhexyl) phthalate	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1
Butyl benzyl phthalate	ND		21	ug/L	05/22/18 14:38	05/24/18 17:56		1

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Client Sample ID: Grab

Date Collected: 05/18/18 08:10

Date Received: 05/18/18 14:45

## Lab Sample ID: 440-211591-2

Matrix: Water

### Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Dibenz(a,h)anthracene	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
Dibenzofuran	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Diethyl phthalate	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Dimethyl phthalate	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Di-n-butyl phthalate	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
Di-n-octyl phthalate	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
Fluoranthene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Fluorene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Hexachlorobenzene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Hexachlorobutadiene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Hexachlorocyclopentadiene	ND *		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
Hexachloroethane	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Indeno[1,2,3-cd]pyrene	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
Isophorone	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Naphthalene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Nitrobenzene	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
N-Nitrosodimethylamine	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
N-Nitrosodi-n-propylamine	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
N-Nitrosodiphenylamine	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Pentachlorophenol	ND		21	ug/L		05/22/18 14:38	05/24/18 17:56	1
Phenanthrene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Phenol	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1
Pyrene	ND		11	ug/L		05/22/18 14:38	05/24/18 17:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
2,4,6-Tribromophenol (Surr)	95		40 - 120		05/22/18 14:38	05/24/18 17:56	1
2-Fluorobiphenyl	56		50 - 120		05/22/18 14:38	05/24/18 17:56	1
2-Fluorophenol (Surr)	75		30 - 120		05/22/18 14:38	05/24/18 17:56	1
Nitrobenzene-d5 (Surr)	83		45 - 120		05/22/18 14:38	05/24/18 17:56	1
Phenol-d6 (Surr)	78		35 - 120		05/22/18 14:38	05/24/18 17:56	1
Terphenyl-d14 (Surr)	97		10 - 150		05/22/18 14:38	05/24/18 17:56	1

### General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.7	HF	0.1	SU			05/20/18 14:02	1

### General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND	HF	0.050	mg/L		05/22/18 12:55	05/22/18 15:48	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	8.24			SU			05/18/18 08:10	1
Field Temperature	65.3			Fahrenheit			05/18/18 08:10	1

TestAmerica Irvine

# Surrogate Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-211454-A-6 MS	Matrix Spike	102	98	97	100
440-211454-A-6 MSD	Matrix Spike Duplicate	100	99	98	100
440-211591-2	Grab	100	90	100	97
440-211591-2	Grab	102	102	97	105
440-211591-2 - RA	Grab	104	92	102	96
440-211591-2 MS	Grab	99	89	98	96
440-211591-2 MSD	Grab	99	90	97	94
440-211786-A-1 MS	Matrix Spike	103	89	100	93
440-211786-A-1 MSD	Matrix Spike Duplicate	103	89	99	93
LCS 440-477486/5	Lab Control Sample	97	87	95	98
LCS 440-478012/6	Lab Control Sample	102	99	98	102
LCS 440-478275/10	Lab Control Sample	95	87	95	100
MB 440-477486/4	Method Blank	100	90	98	98
MB 440-478012/5	Method Blank	107	100	98	105
MB 440-478275/6	Method Blank	94	91	97	100

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (40-120)	FBP (50-120)	2FP (30-120)	NBZ (45-120)	PHL6 (35-120)	TPHL (10-150)
440-211591-2	Grab	95	56	75	83	78	97
LCS 440-477895/2-A	Lab Control Sample	90	77	74	81	76	91
LCSD 440-477895/3-A	Lab Control Sample Dup	98	78	66	77	70	101
MB 440-477895/1-A	Method Blank	79	71	66	74	68	88

### Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL6 = Phenol-d6 (Surr)

TPHL = Terphenyl-d14 (Surr)

## Method: 8270C SIM - 1,4 Dioxane by SIM

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DXE (36-90)	
440-211591-2	Grab	52	
LCS 440-477875/3-A	Lab Control Sample	60	
LCSD 440-477875/4-A	Lab Control Sample Dup	56	

TestAmerica Irvine

## **Surrogate Summary**

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## **Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)**

## **Matrix: Water**

### **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	DXE (36-90)	66	
MB 440-477875/1-A	Method Blank			

## Surrogate Legend

**DXE = 1,4-Dioxane-d8 (Surr)**

## Method Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	1,4 Dioxane by SIM	SW846	TAL IRV
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL IRV
SM 4500 H+ B	pH	SM	TAL IRV
SM 4500 S2 D	Sulfide, Total	SM	TAL IRV
SM 5220D	COD	SM	TAL IRV
Field Sampling	Field Sampling	EPA	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV
SM 4500 S2 B	Sulfide, Separation of Soluble and Insoluble	SM	TAL IRV

### Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# Lab Chronicle

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

**Client Sample ID: Composite**

**Lab Sample ID: 440-211591-1**

**Matrix: Water**

**Date Collected: 05/18/18 08:00**

**Date Received: 05/18/18 14:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	478185	05/23/18 15:33	HTL	TAL IRV
Total/NA	Analysis	SM 5220D		1	2.5 mL	2.5 mL	478438	05/24/18 15:37	KYP	TAL IRV

**Client Sample ID: Grab**

**Lab Sample ID: 440-211591-2**

**Matrix: Water**

**Date Collected: 05/18/18 08:10**

**Date Received: 05/18/18 14:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	477486	05/21/18 09:36	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	478275	05/24/18 12:55	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	478012	05/23/18 10:45	RM	TAL IRV
Total/NA	Prep	3520C			945 mL	2.0 mL	477895	05/22/18 14:38	JS1	TAL IRV
Total/NA	Analysis	8270C		1			478357	05/24/18 17:56	L1B	TAL IRV
Total/NA	Prep	3520C			960 mL	1.0 mL	477875	05/22/18 12:28	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			478024	05/23/18 14:40	HN	TAL IRV
Total/NA	Analysis	SM 4500 H+ B		1			477429	05/20/18 14:02	CMM	TAL IRV
Dissolved	Prep	SM 4500 S2 B			7.5 mL	7.5 mL	477882	05/22/18 12:55	KMY	TAL IRV
Dissolved	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	477923	05/22/18 15:48	KMY	TAL IRV
Total/NA	Analysis	Field Sampling		1			477468	05/18/18 08:10	PS	TAL IRV

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID:** MB 440-477486/4

**Matrix:** Water

**Analysis Batch:** 477486

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		5.0	ug/L			05/21/18 08:23	1
Acrylonitrile	ND		2.0	ug/L			05/21/18 08:23	1
2-Chloroethyl vinyl ether	ND		2.0	ug/L			05/21/18 08:23	1
Total Volatile Organic Compounds	ND		150	ug/L			05/21/18 08:23	1

Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		05/21/18 08:23	1
4-Bromofluorobenzene (Surr)	90		80 - 120		05/21/18 08:23	1
Dibromofluoromethane (Surr)	98		76 - 132		05/21/18 08:23	1
Toluene-d8 (Surr)	98		80 - 128		05/21/18 08:23	1

**Lab Sample ID:** LCS 440-477486/5

**Matrix:** Water

**Analysis Batch:** 477486

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
Acrolein	25.0	17.7		ug/L		71	10 - 145
Acrylonitrile	250	227		ug/L		91	48 - 140
2-Chloroethyl vinyl ether	25.0	22.2		ug/L		89	37 - 150

Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	97		70 - 130				
4-Bromofluorobenzene (Surr)	87		80 - 120				
Dibromofluoromethane (Surr)	95		76 - 132				
Toluene-d8 (Surr)	98		80 - 128				

**Lab Sample ID:** 440-211591-2 MS

**Matrix:** Water

**Analysis Batch:** 477486

**Client Sample ID:** Grab  
**Prep Type:** Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.
Acrolein	ND		25.0	14.5		ug/L		58	10 - 147
Acrylonitrile	ND		250	196		ug/L		79	38 - 144
2-Chloroethyl vinyl ether	ND		25.0	21.6		ug/L		86	10 - 140

Surrogate	%Recovery	MS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	99		70 - 130				
4-Bromofluorobenzene (Surr)	89		80 - 120				
Dibromofluoromethane (Surr)	98		76 - 132				
Toluene-d8 (Surr)	96		80 - 128				

**Lab Sample ID:** 440-211591-2 MSD

**Matrix:** Water

**Analysis Batch:** 477486

**Client Sample ID:** Grab  
**Prep Type:** Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	RPD
Acrolein	ND		25.0	12.8		ug/L		51	10 - 147

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-211591-2 MSD**

**Matrix: Water**

**Analysis Batch: 477486**

**Client Sample ID: Grab**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec.	Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
Acrylonitrile	ND		250	184		ug/L	74	38 - 144	6	40	
2-Chloroethyl vinyl ether	ND		25.0	21.5		ug/L	86	10 - 140	1	35	
<b>Surrogate</b>											
1,2-Dichloroethane-d4 (Surr)	99			70 - 130							
4-Bromofluorobenzene (Surr)	90			80 - 120							
Dibromofluoromethane (Surr)	97			76 - 132							
Toluene-d8 (Surr)	94			80 - 128							

**Lab Sample ID: MB 440-478012/5**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			05/23/18 08:47	1
1,1,1-Trichloroethane	ND		1.0	ug/L			05/23/18 08:47	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			05/23/18 08:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			05/23/18 08:47	1
1,1,2-Trichloroethane	ND		1.0	ug/L			05/23/18 08:47	1
1,1-Dichloroethane	ND		1.0	ug/L			05/23/18 08:47	1
1,1-Dichloroethene	ND		1.0	ug/L			05/23/18 08:47	1
1,1-Dichloropropene	ND		1.0	ug/L			05/23/18 08:47	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			05/23/18 08:47	1
1,2,3-Trichloropropane	ND		1.0	ug/L			05/23/18 08:47	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			05/23/18 08:47	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			05/23/18 08:47	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			05/23/18 08:47	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			05/23/18 08:47	1
1,2-Dichlorobenzene	ND		1.0	ug/L			05/23/18 08:47	1
1,2-Dichloroethane	ND		1.0	ug/L			05/23/18 08:47	1
1,2-Dichloropropane	ND		1.0	ug/L			05/23/18 08:47	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			05/23/18 08:47	1
1,3-Dichlorobenzene	ND		1.0	ug/L			05/23/18 08:47	1
1,3-Dichloropropane	ND		1.0	ug/L			05/23/18 08:47	1
1,4-Dichlorobenzene	ND		1.0	ug/L			05/23/18 08:47	1
2,2-Dichloropropane	ND		1.0	ug/L			05/23/18 08:47	1
2-Chlorotoluene	ND		1.0	ug/L			05/23/18 08:47	1
4-Chlorotoluene	ND		1.0	ug/L			05/23/18 08:47	1
Acetone	ND		10	ug/L			05/23/18 08:47	1
Benzene	ND		0.50	ug/L			05/23/18 08:47	1
Bromobenzene	ND		1.0	ug/L			05/23/18 08:47	1
Bromochloromethane	ND		1.0	ug/L			05/23/18 08:47	1
Bromodichloromethane	ND		1.0	ug/L			05/23/18 08:47	1
Bromoform	ND		1.0	ug/L			05/23/18 08:47	1
Bromomethane	ND		1.0	ug/L			05/23/18 08:47	1
Carbon tetrachloride	ND		0.50	ug/L			05/23/18 08:47	1
Chlorobenzene	ND		1.0	ug/L			05/23/18 08:47	1
Chloroethane	ND		1.0	ug/L			05/23/18 08:47	1

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID:** MB 440-478012/5

**Matrix:** Water

**Analysis Batch:** 478012

**Client Sample ID:** Method Blank

**Prep Type:** Total/NA

Analyte	MB	MB	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND				1.0	ug/L		05/23/18 08:47		1
Chloromethane	ND				1.0	ug/L		05/23/18 08:47		1
cis-1,2-Dichloroethene	ND				1.0	ug/L		05/23/18 08:47		1
cis-1,3-Dichloropropene	ND				0.50	ug/L		05/23/18 08:47		1
Dibromochloromethane	ND				1.0	ug/L		05/23/18 08:47		1
Dibromomethane	ND				1.0	ug/L		05/23/18 08:47		1
Dichlorodifluoromethane	ND				1.0	ug/L		05/23/18 08:47		1
Ethylbenzene	ND				1.0	ug/L		05/23/18 08:47		1
Hexachlorobutadiene	ND				1.0	ug/L		05/23/18 08:47		1
Isopropyl alcohol	ND				250	ug/L		05/23/18 08:47		1
Isopropylbenzene	ND				1.0	ug/L		05/23/18 08:47		1
m,p-Xylene	ND				1.0	ug/L		05/23/18 08:47		1
Methylene Chloride	ND				5.0	ug/L		05/23/18 08:47		1
Methyl-t-Butyl Ether (MTBE)	ND				1.0	ug/L		05/23/18 08:47		1
Naphthalene	ND				1.0	ug/L		05/23/18 08:47		1
n-Butylbenzene	ND				1.0	ug/L		05/23/18 08:47		1
N-Propylbenzene	ND				1.0	ug/L		05/23/18 08:47		1
o-Xylene	ND				1.0	ug/L		05/23/18 08:47		1
p-Isopropyltoluene	ND				1.0	ug/L		05/23/18 08:47		1
sec-Butylbenzene	ND				1.0	ug/L		05/23/18 08:47		1
Styrene	ND				1.0	ug/L		05/23/18 08:47		1
tert-Butylbenzene	ND				1.0	ug/L		05/23/18 08:47		1
Tetrachloroethene	ND				1.0	ug/L		05/23/18 08:47		1
Toluene	ND				1.0	ug/L		05/23/18 08:47		1
trans-1,2-Dichloroethene	ND				1.0	ug/L		05/23/18 08:47		1
trans-1,3-Dichloropropene	ND				0.50	ug/L		05/23/18 08:47		1
Trichloroethene	ND				1.0	ug/L		05/23/18 08:47		1
Trichlorofluoromethane	ND				1.0	ug/L		05/23/18 08:47		1
Vinyl chloride	ND				0.50	ug/L		05/23/18 08:47		1

Surrogate	MB	MB	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		107		70 - 130			05/23/18 08:47	1
4-Bromofluorobenzene (Surr)	100		100		80 - 120			05/23/18 08:47	1
Dibromofluoromethane (Surr)	98		98		76 - 132			05/23/18 08:47	1
Toluene-d8 (Surr)	105		105		80 - 128			05/23/18 08:47	1

**Lab Sample ID:** LCS 440-478012/6

**Matrix:** Water

**Analysis Batch:** 478012

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	Limits	
	Added									
1,1,1,2-Tetrachloroethane	25.0		28.2			ug/L		113	60 - 141	
1,1,1-Trichloroethane	25.0		28.2			ug/L		113	70 - 130	
1,1,2,2-Tetrachloroethane	25.0		25.9			ug/L		104	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0		28.3			ug/L		113	60 - 140	
1,1,2-Trichloroethane	25.0		27.2			ug/L		109	70 - 130	
1,1-Dichloroethane	25.0		26.8			ug/L		107	64 - 130	

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-478012/6**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
1,1-Dichloroethene	25.0	28.4		ug/L		114	70 - 130	
1,1-Dichloropropene	25.0	28.9		ug/L		116	70 - 130	
1,2,3-Trichlorobenzene	25.0	27.3		ug/L		109	60 - 140	
1,2,3-Trichloropropane	25.0	26.3		ug/L		105	63 - 130	
1,2,4-Trichlorobenzene	25.0	26.6		ug/L		106	60 - 140	
1,2,4-Trimethylbenzene	25.0	28.2		ug/L		113	70 - 135	
1,2-Dibromo-3-Chloropropane	25.0	26.6		ug/L		106	52 - 140	
1,2-Dibromoethane (EDB)	25.0	27.0		ug/L		108	70 - 130	
1,2-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130	
1,2-Dichloroethane	25.0	27.4		ug/L		110	57 - 138	
1,2-Dichloropropane	25.0	27.0		ug/L		108	67 - 130	
1,3,5-Trimethylbenzene	25.0	28.6		ug/L		114	70 - 136	
1,3-Dichlorobenzene	25.0	26.2		ug/L		105	70 - 130	
1,3-Dichloropropane	25.0	26.6		ug/L		106	70 - 130	
1,4-Dichlorobenzene	25.0	26.1		ug/L		104	70 - 130	
2,2-Dichloropropane	25.0	27.4		ug/L		110	68 - 141	
2-Chlorotoluene	25.0	27.1		ug/L		108	70 - 130	
4-Chlorotoluene	25.0	27.7		ug/L		111	70 - 130	
Acetone	25.0	27.7		ug/L		111	10 - 150	
Benzene	25.0	26.5		ug/L		106	68 - 130	
Bromobenzene	25.0	26.1		ug/L		104	70 - 130	
Bromochloromethane	25.0	26.0		ug/L		104	70 - 130	
Bromodichloromethane	25.0	26.5		ug/L		106	70 - 132	
Bromoform	25.0	26.6		ug/L		106	60 - 148	
Bromomethane	25.0	27.2		ug/L		109	64 - 139	
Carbon tetrachloride	25.0	28.8		ug/L		115	60 - 150	
Chlorobenzene	25.0	26.0		ug/L		104	70 - 130	
Chloroethane	25.0	28.7		ug/L		115	64 - 135	
Chloroform	25.0	26.9		ug/L		108	70 - 130	
Chloromethane	25.0	23.5		ug/L		94	47 - 140	
cis-1,2-Dichloroethene	25.0	27.0		ug/L		108	70 - 133	
cis-1,3-Dichloropropene	25.0	29.2		ug/L		117	70 - 133	
Dibromochloromethane	25.0	28.2		ug/L		113	69 - 145	
Dibromomethane	25.0	26.1		ug/L		104	70 - 130	
Dichlorodifluoromethane	25.0	21.8		ug/L		87	29 - 150	
Ethylbenzene	25.0	27.3		ug/L		109	70 - 130	
Hexachlorobutadiene	25.0	27.7		ug/L		111	10 - 150	
Isopropylbenzene	25.0	28.7		ug/L		115	70 - 136	
m,p-Xylene	25.0	28.4		ug/L		114	70 - 130	
Methylene Chloride	25.0	25.7		ug/L		103	52 - 130	
Methyl-t-Butyl Ether (MTBE)	25.0	24.7		ug/L		99	63 - 131	
Naphthalene	25.0	24.9		ug/L		100	60 - 140	
n-Butylbenzene	25.0	28.6		ug/L		114	65 - 150	
N-Propylbenzene	25.0	28.5		ug/L		114	67 - 139	
o-Xylene	25.0	28.7		ug/L		115	70 - 130	
p-Isopropyltoluene	25.0	27.4		ug/L		110	70 - 132	
sec-Butylbenzene	25.0	28.5		ug/L		114	70 - 138	
Styrene	25.0	27.9		ug/L		111	70 - 134	

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-478012/6**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				
tert-Butylbenzene	25.0	28.0		ug/L		112	70 - 130
Tetrachloroethene	25.0	27.5		ug/L		110	70 - 130
Toluene	25.0	27.4		ug/L		110	70 - 130
trans-1,2-Dichloroethene	25.0	27.8		ug/L		111	70 - 130
trans-1,3-Dichloropropene	25.0	28.2		ug/L		113	70 - 132
Trichloroethene	25.0	26.8		ug/L		107	70 - 130
Trichlorofluoromethane	25.0	28.7		ug/L		115	60 - 150
Vinyl chloride	25.0	27.5		ug/L		110	59 - 133

**LCS LCS**

Surrogate	Spike	LCS	LCS	Limits
	Added	Result	Qualifier	
1,2-Dichloroethane-d4 (Surr)	102			70 - 130
4-Bromofluorobenzene (Surr)	99			80 - 120
Dibromofluoromethane (Surr)	98			76 - 132
Toluene-d8 (Surr)	102			80 - 128

**Lab Sample ID: 440-211454-A-6 MS**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
1,1,1,2-Tetrachloroethane	ND		25.0	27.1		ug/L		108	60 - 149
1,1,1-Trichloroethane	ND		25.0	27.6		ug/L		111	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	26.4		ug/L		106	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	27.5		ug/L		110	60 - 140
1,1,2-Trichloroethane	ND		25.0	26.5		ug/L		106	70 - 130
1,1-Dichloroethane	ND		25.0	26.8		ug/L		107	65 - 130
1,1-Dichloroethene	ND		25.0	27.2		ug/L		109	70 - 130
1,1-Dichloropropene	ND		25.0	28.2		ug/L		113	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	27.3		ug/L		109	60 - 140
1,2,3-Trichloropropane	ND		25.0	26.4		ug/L		106	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	26.4		ug/L		106	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	27.4		ug/L		110	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	27.6		ug/L		111	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	26.3		ug/L		105	70 - 131
1,2-Dichlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130
1,2-Dichloroethane	ND		25.0	26.8		ug/L		107	56 - 146
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	28.0		ug/L		112	70 - 130
1,3-Dichlorobenzene	ND		25.0	26.3		ug/L		105	70 - 130
1,3-Dichloropropane	ND		25.0	26.5		ug/L		106	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.9		ug/L		104	70 - 130
2,2-Dichloropropane	ND		25.0	28.3		ug/L		113	69 - 138
2-Chlorotoluene	ND		25.0	26.7		ug/L		107	70 - 130
4-Chlorotoluene	ND		25.0	27.3		ug/L		109	70 - 130
Acetone	ND		25.0	28.7		ug/L		115	10 - 150
Benzene	ND		25.0	26.2		ug/L		105	66 - 130
Bromobenzene	ND		25.0	25.9		ug/L		104	70 - 130

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-211454-A-6 MS**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
Bromochloromethane	ND		25.0	26.1		ug/L		104	70 - 130
Bromodichloromethane	ND		25.0	26.1		ug/L		104	70 - 138
Bromoform	ND		25.0	26.3		ug/L		105	59 - 150
Bromomethane	ND		25.0	26.7		ug/L		107	62 - 131
Carbon tetrachloride	ND		25.0	28.4		ug/L		114	60 - 150
Chlorobenzene	ND		25.0	25.2		ug/L		101	70 - 130
Chloroethane	ND		25.0	27.9		ug/L		112	68 - 130
Chloroform	ND		25.0	26.6		ug/L		106	70 - 130
Chloromethane	ND		25.0	22.6		ug/L		91	39 - 144
cis-1,2-Dichloroethene	ND		25.0	26.7		ug/L		107	70 - 130
cis-1,3-Dichloropropene	ND		25.0	27.3		ug/L		109	70 - 133
Dibromochloromethane	ND		25.0	27.2		ug/L		109	70 - 148
Dibromomethane	ND		25.0	26.0		ug/L		104	70 - 130
Dichlorodifluoromethane	ND		25.0	21.7		ug/L		87	25 - 142
Ethylbenzene	ND		25.0	26.3		ug/L		105	70 - 130
Hexachlorobutadiene	ND		25.0	26.9		ug/L		108	10 - 150
Isopropylbenzene	ND		25.0	27.4		ug/L		110	70 - 132
m,p-Xylene	ND		25.0	27.4		ug/L		110	70 - 133
Methylene Chloride	ND		25.0	26.4		ug/L		100	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.5		ug/L		98	70 - 130
Naphthalene	ND		25.0	25.3		ug/L		101	60 - 140
n-Butylbenzene	ND		25.0	28.1		ug/L		113	61 - 149
N-Propylbenzene	ND		25.0	28.1		ug/L		112	66 - 135
o-Xylene	ND		25.0	26.9		ug/L		108	70 - 133
p-Isopropyltoluene	ND		25.0	27.3		ug/L		109	70 - 130
sec-Butylbenzene	ND		25.0	28.0		ug/L		112	67 - 134
Styrene	ND	F2 F1	25.0	2.28	F1	ug/L		9	29 - 150
tert-Butylbenzene	ND		25.0	27.5		ug/L		110	70 - 130
Tetrachloroethene	ND		25.0	26.8		ug/L		107	70 - 137
Toluene	ND		25.0	26.7		ug/L		107	70 - 130
trans-1,2-Dichloroethene	ND		25.0	27.7		ug/L		111	70 - 130
trans-1,3-Dichloropropene	ND		25.0	27.2		ug/L		109	70 - 138
Trichloroethene	ND		25.0	26.4		ug/L		106	70 - 130
Trichlorofluoromethane	ND		25.0	28.2		ug/L		113	60 - 150
Vinyl chloride	ND		25.0	27.3		ug/L		109	50 - 137
<b>Surrogate</b>		<b>MS</b>	<b>MS</b>						
		<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>				
1,2-Dichloroethane-d4 (Surr)		102			70 - 130				
4-Bromofluorobenzene (Surr)		98			80 - 120				
Dibromofluoromethane (Surr)		97			76 - 132				
Toluene-d8 (Surr)		100			80 - 128				

**Lab Sample ID: 440-211454-A-6 MSD**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
1,1,1,2-Tetrachloroethane	ND		25.0	26.7		ug/L		107	60 - 149

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-211454-A-6 MSD**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1,1-Trichloroethane	ND		25.0	27.8		ug/L	111	70 - 130	1	20	
1,1,2,2-Tetrachloroethane	ND		25.0	25.4		ug/L	101	63 - 130	4	30	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	28.0		ug/L	112	60 - 140	2	20	
1,1,2-Trichloroethane	ND		25.0	25.2		ug/L	101	70 - 130	5	25	
1,1-Dichloroethane	ND		25.0	26.3		ug/L	105	65 - 130	2	20	
1,1-Dichloroethene	ND		25.0	27.4		ug/L	110	70 - 130	1	20	
1,1-Dichloropropene	ND		25.0	28.5		ug/L	114	64 - 130	1	20	
1,2,3-Trichlorobenzene	ND		25.0	27.5		ug/L	110	60 - 140	1	20	
1,2,3-Trichloropropane	ND		25.0	26.2		ug/L	105	60 - 130	1	30	
1,2,4-Trichlorobenzene	ND		25.0	26.7		ug/L	107	60 - 140	1	20	
1,2,4-Trimethylbenzene	ND		25.0	27.6		ug/L	110	70 - 130	1	25	
1,2-Dibromo-3-Chloropropane	ND		25.0	25.8		ug/L	103	48 - 140	7	30	
1,2-Dibromoethane (EDB)	ND		25.0	25.7		ug/L	103	70 - 131	2	25	
1,2-Dichlorobenzene	ND		25.0	25.6		ug/L	102	70 - 130	0	20	
1,2-Dichloroethane	ND		25.0	26.2		ug/L	105	56 - 146	2	20	
1,2-Dichloropropane	ND		25.0	26.3		ug/L	105	69 - 130	1	20	
1,3,5-Trimethylbenzene	ND		25.0	28.0		ug/L	112	70 - 130	0	20	
1,3-Dichlorobenzene	ND		25.0	25.8		ug/L	103	70 - 130	2	20	
1,3-Dichloropropane	ND		25.0	25.5		ug/L	102	70 - 130	4	25	
1,4-Dichlorobenzene	ND		25.0	25.6		ug/L	102	70 - 130	1	20	
2,2-Dichloropropane	ND		25.0	27.1		ug/L	109	69 - 138	4	25	
2-Chlorotoluene	ND		25.0	26.7		ug/L	107	70 - 130	0	20	
4-Chlorotoluene	ND		25.0	26.8		ug/L	107	70 - 130	2	20	
Acetone	ND		25.0	29.2		ug/L	117	10 - 150	2	35	
Benzene	ND		25.0	26.0		ug/L	104	66 - 130	1	20	
Bromobenzene	ND		25.0	25.6		ug/L	102	70 - 130	1	20	
Bromochloromethane	ND		25.0	25.3		ug/L	101	70 - 130	3	25	
Bromodichloromethane	ND		25.0	25.9		ug/L	104	70 - 138	1	20	
Bromoform	ND		25.0	25.3		ug/L	101	59 - 150	4	25	
Bromomethane	ND		25.0	26.9		ug/L	108	62 - 131	1	25	
Carbon tetrachloride	ND		25.0	28.7		ug/L	115	60 - 150	1	25	
Chlorobenzene	ND		25.0	25.0		ug/L	100	70 - 130	1	20	
Chloroethane	ND		25.0	28.3		ug/L	113	68 - 130	1	25	
Chloroform	ND		25.0	26.2		ug/L	105	70 - 130	1	20	
Chloromethane	ND		25.0	23.3		ug/L	93	39 - 144	3	25	
cis-1,2-Dichloroethene	ND		25.0	26.2		ug/L	105	70 - 130	2	20	
cis-1,3-Dichloropropene	ND		25.0	27.0		ug/L	108	70 - 133	1	20	
Dibromochloromethane	ND		25.0	27.0		ug/L	108	70 - 148	1	25	
Dibromomethane	ND		25.0	25.5		ug/L	102	70 - 130	2	25	
Dichlorodifluoromethane	ND		25.0	22.5		ug/L	90	25 - 142	3	30	
Ethylbenzene	ND		25.0	26.4		ug/L	106	70 - 130	1	20	
Hexachlorobutadiene	ND		25.0	27.5		ug/L	110	10 - 150	2	20	
Isopropylbenzene	ND		25.0	27.7		ug/L	111	70 - 132	1	20	
m,p-Xylene	ND		25.0	27.9		ug/L	111	70 - 133	2	25	
Methylene Chloride	ND		25.0	26.3		ug/L	100	52 - 130	0	20	
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.1		ug/L	96	70 - 130	1	25	
Naphthalene	ND		25.0	25.5		ug/L	102	60 - 140	1	30	

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-211454-A-6 MSD**

**Matrix: Water**

**Analysis Batch: 478012**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
n-Butylbenzene	ND		25.0	28.7		ug/L		115	61 - 149	2	20
N-Propylbenzene	ND		25.0	28.3		ug/L		113	66 - 135	1	20
o-Xylene	ND		25.0	27.0		ug/L		108	70 - 133	0	20
p-Isopropyltoluene	ND		25.0	27.5		ug/L		110	70 - 130	1	20
sec-Butylbenzene	ND		25.0	28.4		ug/L		114	67 - 134	2	20
Styrene	ND	F2 F1	25.0	ND	F2 F1	ug/L		4	29 - 150	84	35
tert-Butylbenzene	ND		25.0	28.0		ug/L		112	70 - 130	2	20
Tetrachloroethene	ND		25.0	27.0		ug/L		108	70 - 137	1	20
Toluene	ND		25.0	26.3		ug/L		105	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	27.5		ug/L		110	70 - 130	1	20
trans-1,3-Dichloropropene	ND		25.0	26.5		ug/L		106	70 - 138	3	25
Trichloroethene	ND		25.0	26.4		ug/L		106	70 - 130	0	20
Trichlorofluoromethane	ND		25.0	28.3		ug/L		113	60 - 150	0	25
Vinyl chloride	ND		25.0	27.8		ug/L		111	50 - 137	2	30
<b>Surrogate</b>											
	<b>MSD</b>	<b>MSD</b>									
	<b>%Recovery</b>	<b>Qualifier</b>			<b>Limits</b>						
1,2-Dichloroethane-d4 (Surr)	100				70 - 130						
4-Bromofluorobenzene (Surr)	99				80 - 120						
Dibromofluoromethane (Surr)	98				76 - 132						
Toluene-d8 (Surr)	100				80 - 128						

**Lab Sample ID: MB 440-478275/6**

**Matrix: Water**

**Analysis Batch: 478275**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Acetone	ND		10	ug/L			05/24/18 10:28	1
Isopropyl alcohol	ND		250	ug/L			05/24/18 10:28	1
<b>Surrogate</b>								
	<b>MB</b>	<b>MB</b>						
	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>				
1,2-Dichloroethane-d4 (Surr)	94			70 - 130			05/24/18 10:28	1
4-Bromofluorobenzene (Surr)	91			80 - 120			05/24/18 10:28	1
Dibromofluoromethane (Surr)	97			76 - 132			05/24/18 10:28	1
Toluene-d8 (Surr)	100			80 - 128			05/24/18 10:28	1

**Lab Sample ID: LCS 440-478275/10**

**Matrix: Water**

**Analysis Batch: 478275**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits
	Added	Result	Qualifier				
Acetone	25.0	23.1		ug/L		93	10 - 150
<b>Surrogate</b>							
	<b>LCS</b>	<b>LCS</b>					
	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			
1,2-Dichloroethane-d4 (Surr)	95			70 - 130			
4-Bromofluorobenzene (Surr)	87			80 - 120			
Dibromofluoromethane (Surr)	95			76 - 132			
Toluene-d8 (Surr)	100			80 - 128			

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-211786-A-1 MS**

**Matrix: Water**

**Analysis Batch: 478275**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		25.0	17.5		ug/L		70	10 - 150
<b>Surrogate</b>									
1,2-Dichloroethane-d4 (Surr)	103			70 - 130					
4-Bromofluorobenzene (Surr)	89			80 - 120					
Dibromofluoromethane (Surr)	100			76 - 132					
Toluene-d8 (Surr)	93			80 - 128					

**Lab Sample ID: 440-211786-A-1 MSD**

**Matrix: Water**

**Analysis Batch: 478275**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		25.0	18.8		ug/L		75	10 - 150	7	35
<b>Surrogate</b>											
1,2-Dichloroethane-d4 (Surr)	103			70 - 130							
4-Bromofluorobenzene (Surr)	89			80 - 120							
Dibromofluoromethane (Surr)	99			76 - 132							
Toluene-d8 (Surr)	93			80 - 128							

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-477895/1-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

**Prep Batch: 477895**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
1,2-Dichlorobenzene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		20	ug/L		05/22/18 14:38	05/24/18 14:02	1
1,3-Dichlorobenzene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
1,4-Dichlorobenzene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,4,5-Trichlorophenol	ND		20	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,4,6-Trichlorophenol	ND		20	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,4-Dichlorophenol	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,4-Dimethylphenol	ND		20	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,4-Dinitrophenol	ND		39	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,4-Dinitrotoluene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2,6-Dinitrotoluene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2-Chloronaphthalene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2-Chlorophenol	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2-Methylnaphthalene	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2-Methylphenol	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1
2-Nitroaniline	ND		20	ug/L		05/22/18 14:38	05/24/18 14:02	1
2-Nitrophenol	ND		9.8	ug/L		05/22/18 14:38	05/24/18 14:02	1

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-477895/1-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 477895**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	ND		39	ug/L	05/22/18 14:38	05/24/18 14:02		1
3-Methylphenol + 4-Methylphenol	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
3-Nitroaniline	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
4,6-Dinitro-2-methylphenol	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
4-Bromophenyl phenyl ether	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
4-Chloro-3-methylphenol	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
4-Chloroaniline	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
4-Chlorophenyl phenyl ether	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
4-Nitroaniline	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
4-Nitrophenol	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Acenaphthene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Acenaphthylene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Aniline	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Anthracene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzidine	ND		39	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzo[a]anthracene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzo[a]pyrene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzo[b]fluoranthene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzo[g,h,i]perylene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzo[k]fluoranthene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzoic acid	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Benzyl alcohol	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
bis (2-chloroisopropyl) ether	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Bis(2-chloroethoxy)methane	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Bis(2-chloroethyl)ether	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Bis(2-ethylhexyl) phthalate	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Butyl benzyl phthalate	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Chrysene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Dibenz(a,h)anthracene	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Dibenzofuran	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Diethyl phthalate	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Dimethyl phthalate	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Di-n-butyl phthalate	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Di-n-octyl phthalate	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Fluoranthene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Fluorene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Hexachlorobenzene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Hexachlorobutadiene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Hexachlorocyclopentadiene	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Hexachloroethane	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Indeno[1,2,3-cd]pyrene	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
Isophorone	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Naphthalene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Nitrobenzene	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
N-Nitrosodimethylamine	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1
N-Nitrosodi-n-propylamine	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
N-Nitrosodiphenylamine	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1
Pentachlorophenol	ND		20	ug/L	05/22/18 14:38	05/24/18 14:02		1

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-477895/1-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 477895**

Analyte	MB		RL	Unit	D	Prepared		Analyzed	Dil Fac
	Result	Qualifier				Prepared	Analyzed		
Phenanthrene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1	
Phenol	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1	
Pyrene	ND		9.8	ug/L	05/22/18 14:38	05/24/18 14:02		1	

Surrogate	MB		Limits	Prepared		Dil Fac
	%Recovery	Qualifier		Prepared	Analyzed	
2,4,6-Tribromophenol (Surr)	79		40 - 120	05/22/18 14:38	05/24/18 14:02	1
2-Fluorobiphenyl	71		50 - 120	05/22/18 14:38	05/24/18 14:02	1
2-Fluorophenol (Surr)	66		30 - 120	05/22/18 14:38	05/24/18 14:02	1
Nitrobenzene-d5 (Surr)	74		45 - 120	05/22/18 14:38	05/24/18 14:02	1
Phenol-d6 (Surr)	68		35 - 120	05/22/18 14:38	05/24/18 14:02	1
Terphenyl-d14 (Surr)	88		10 - 150	05/22/18 14:38	05/24/18 14:02	1

**Lab Sample ID: LCS 440-477895/2-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 477895**

Analyte	Spike		LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	
	Added	Result							
1,2,4-Trichlorobenzene	97.1	69.3	ug/L	71	25 - 84				
1,2-Dichlorobenzene	97.1	69.6	ug/L	72	24 - 85				
1,2-Diphenylhydrazine(as Azobenzene)	97.1	87.1	ug/L	90	44 - 113				
1,3-Dichlorobenzene	97.1	67.2	ug/L	69	20 - 80				
1,4-Dichlorobenzene	97.1	69.0	ug/L	71	22 - 81				
2,4,5-Trichlorophenol	97.1	86.1	ug/L	89	24 - 121				
2,4,6-Trichlorophenol	97.1	92.4	ug/L	95	20 - 121				
2,4-Dichlorophenol	97.1	80.1	ug/L	83	23 - 113				
2,4-Dimethylphenol	97.1	81.4	ug/L	84	39 - 94				
2,4-Dinitrophenol	194	154	ug/L	79	23 - 134				
2,4-Dinitrotoluene	97.1	85.8	ug/L	88	54 - 115				
2,6-Dinitrotoluene	97.1	87.1	ug/L	90	50 - 115				
2-Chloronaphthalene	97.1	83.2	ug/L	86	34 - 102				
2-Chlorophenol	97.1	78.2	ug/L	81	20 - 106				
2-Methylnaphthalene	97.1	79.2	ug/L	82	34 - 98				
2-Methylphenol	97.1	82.4	ug/L	85	36 - 103				
2-Nitroaniline	97.1	90.5	ug/L	93	48 - 111				
2-Nitrophenol	97.1	81.2	ug/L	84	20 - 117				
3,3'-Dichlorobenzidine	97.1	74.6	ug/L	77	22 - 97				
3-Methylphenol + 4-Methylphenol	97.1	86.3	ug/L	89	35 - 106				
3-Nitroaniline	97.1	71.4	ug/L	74	51 - 116				
4,6-Dinitro-2-methylphenol	194	181	ug/L	93	28 - 139				
4-Bromophenyl phenyl ether	97.1	90.1	ug/L	93	42 - 113				
4-Chloro-3-methylphenol	97.1	87.1	ug/L	90	44 - 110				
4-Chloroaniline	97.1	80.8	ug/L	83	42 - 109				
4-Chlorophenyl phenyl ether	97.1	92.3	ug/L	95	38 - 115				
4-Nitroaniline	97.1	85.9	ug/L	88	50 - 116				
4-Nitrophenol	194	170	ug/L	88	26 - 132				
Acenaphthene	97.1	87.3	ug/L	90	37 - 107				
Acenaphthylene	97.1	92.9	ug/L	96	39 - 107				

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-477895/2-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 477895**

**%Rec.**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aniline	97.1	91.5		ug/L	94	27 - 115	
Anthracene	97.1	90.4		ug/L	93	42 - 120	
Benzidine	97.1	133		ug/L	137	5 - 150	
Benzo[a]anthracene	97.1	99.6		ug/L	103	42 - 115	
Benzo[a]pyrene	97.1	87.3		ug/L	90	41 - 117	
Benzo[b]fluoranthene	97.1	87.9		ug/L	90	36 - 113	
Benzo[g,h,i]perylene	97.1	92.5		ug/L	95	37 - 115	
Benzo[k]fluoranthene	97.1	88.3		ug/L	91	42 - 122	
Benzoic acid	97.1	68.9		ug/L	71	15 - 121	
Benzyl alcohol	97.1	71.3		ug/L	73	39 - 106	
bis (2-chloroisopropyl) ether	97.1	85.3		ug/L	88	38 - 104	
Bis(2-chloroethoxy)methane	97.1	81.4		ug/L	84	47 - 104	
Bis(2-chloroethyl)ether	97.1	79.8		ug/L	82	42 - 99	
Bis(2-ethylhexyl) phthalate	97.1	104		ug/L	107	43 - 124	
Butyl benzyl phthalate	97.1	97.7		ug/L	101	44 - 122	
Chrysene	97.1	104		ug/L	108	42 - 118	
Dibenz(a,h)anthracene	97.1	89.8		ug/L	92	40 - 114	
Dibenzofuran	97.1	87.1		ug/L	90	37 - 113	
Diethyl phthalate	97.1	88.5		ug/L	91	51 - 120	
Dimethyl phthalate	97.1	86.0		ug/L	89	49 - 113	
Di-n-butyl phthalate	97.1	88.7		ug/L	91	47 - 125	
Di-n-octyl phthalate	97.1	95.7		ug/L	99	42 - 125	
Fluoranthene	97.1	93.5		ug/L	96	44 - 119	
Fluorene	97.1	91.3		ug/L	94	39 - 116	
Hexachlorobenzene	97.1	92.9		ug/L	96	43 - 112	
Hexachlorobutadiene	97.1	64.6		ug/L	67	14 - 77	
Hexachlorocyclopentadiene	97.1	78.3 *		ug/L	81	10 - 77	
Hexachloroethane	97.1	60.9		ug/L	63	13 - 75	
Indeno[1,2,3-cd]pyrene	97.1	89.1		ug/L	92	35 - 116	
Isophorone	97.1	90.4		ug/L	93	48 - 107	
Naphthalene	97.1	76.6		ug/L	79	33 - 95	
Nitrobenzene	97.1	83.7		ug/L	86	42 - 99	
N-Nitrosodimethylamine	97.1	85.5		ug/L	88	35 - 96	
N-Nitrosodi-n-propylamine	97.1	86.8		ug/L	89	44 - 111	
N-Nitrosodiphenylamine	97.1	87.3		ug/L	90	46 - 116	
Pentachlorophenol	194	157		ug/L	81	26 - 136	
Phenanthrene	97.1	91.1		ug/L	94	43 - 120	
Phenol	97.1	78.1		ug/L	80	25 - 99	
Pyrene	97.1	105		ug/L	109	43 - 119	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	90		40 - 120
2-Fluorobiphenyl	77		50 - 120
2-Fluorophenol (Surr)	74		30 - 120
Nitrobenzene-d5 (Surr)	81		45 - 120
Phenol-d6 (Surr)	76		35 - 120
Terphenyl-d14 (Surr)	91		10 - 150

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 440-477895/3-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 477895**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	98.0	61.1		ug/L	62	25 - 84	13	35	
1,2-Dichlorobenzene	98.0	60.6		ug/L	62	24 - 85	14	35	
1,2-Diphenylhydrazine(as Azobenzene)	98.0	90.1		ug/L	92	44 - 113	3	35	
1,3-Dichlorobenzene	98.0	58.0		ug/L	59	20 - 80	15	35	
1,4-Dichlorobenzene	98.0	58.4		ug/L	60	22 - 81	17	35	
2,4,5-Trichlorophenol	98.0	93.5		ug/L	95	24 - 121	8	35	
2,4,6-Trichlorophenol	98.0	96.0		ug/L	98	20 - 121	4	35	
2,4-Dichlorophenol	98.0	79.3		ug/L	81	23 - 113	1	35	
2,4-Dimethylphenol	98.0	80.2		ug/L	82	39 - 94	2	35	
2,4-Dinitrophenol	196	176		ug/L	90	23 - 134	13	35	
2,4-Dinitrotoluene	98.0	95.7		ug/L	98	54 - 115	11	35	
2,6-Dinitrotoluene	98.0	92.6		ug/L	94	50 - 115	6	35	
2-Chloronaphthalene	98.0	84.4		ug/L	86	34 - 102	1	35	
2-Chlorophenol	98.0	74.5		ug/L	76	20 - 106	5	35	
2-Methylnaphthalene	98.0	74.9		ug/L	76	34 - 98	6	35	
2-Methylphenol	98.0	80.6		ug/L	82	36 - 103	2	35	
2-Nitroaniline	98.0	94.1		ug/L	96	48 - 111	4	35	
2-Nitrophenol	98.0	79.0		ug/L	81	20 - 117	3	35	
3,3'-Dichlorobenzidine	98.0	83.9		ug/L	86	22 - 97	12	35	
3-Methylphenol + 4-Methylphenol	98.0	84.6		ug/L	86	35 - 106	2	35	
3-Nitroaniline	98.0	83.9		ug/L	86	51 - 116	16	35	
4,6-Dinitro-2-methylphenol	196	194		ug/L	99	28 - 139	7	35	
4-Bromophenyl phenyl ether	98.0	99.6		ug/L	102	42 - 113	10	35	
4-Chloro-3-methylphenol	98.0	88.9		ug/L	91	44 - 110	2	35	
4-Chloroaniline	98.0	83.6		ug/L	85	42 - 109	3	35	
4-Chlorophenyl phenyl ether	98.0	98.6		ug/L	101	38 - 115	7	35	
4-Nitroaniline	98.0	91.1		ug/L	93	50 - 116	6	35	
4-Nitrophenol	196	192		ug/L	98	26 - 132	12	35	
Acenaphthene	98.0	89.5		ug/L	91	37 - 107	2	35	
Acenaphthylene	98.0	95.4		ug/L	97	39 - 107	3	35	
Aniline	98.0	89.1		ug/L	91	27 - 115	3	35	
Anthracene	98.0	98.0		ug/L	100	42 - 120	8	35	
Benzidine	98.0	ND *		ug/L	3	5 - 150	192	35	
Benzo[a]anthracene	98.0	109		ug/L	111	42 - 115	9	35	
Benzo[a]pyrene	98.0	98.4		ug/L	100	41 - 117	12	35	
Benzo[b]fluoranthene	98.0	96.4		ug/L	98	36 - 113	9	35	
Benzo[g,h,i]perylene	98.0	100		ug/L	102	37 - 115	8	35	
Benzo[k]fluoranthene	98.0	101		ug/L	103	42 - 122	14	35	
Benzoic acid	98.0	70.8		ug/L	72	15 - 121	3	35	
Benzyl alcohol	98.0	80.6		ug/L	82	39 - 106	12	35	
bis (2-chloroisopropyl) ether	98.0	79.2		ug/L	81	38 - 104	7	35	
Bis(2-chloroethoxy)methane	98.0	79.2		ug/L	81	47 - 104	3	35	
Bis(2-chloroethyl)ether	98.0	76.8		ug/L	78	42 - 99	4	35	
Bis(2-ethylhexyl) phthalate	98.0	115		ug/L	117	43 - 124	10	35	
Butyl benzyl phthalate	98.0	105		ug/L	107	44 - 122	8	35	
Chrysene	98.0	114		ug/L	116	42 - 118	9	35	
Dibenz(a,h)anthracene	98.0	97.4		ug/L	99	40 - 114	8	35	

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 440-477895/3-A**

**Matrix: Water**

**Analysis Batch: 478357**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 477895**

**%Rec.**

**RPD**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Dibenzofuran	98.0	90.5		ug/L	92	37 - 113	4	35	
Diethyl phthalate	98.0	96.7		ug/L	99	51 - 120	9	35	
Dimethyl phthalate	98.0	94.2		ug/L	96	49 - 113	9	35	
Di-n-butyl phthalate	98.0	98.2		ug/L	100	47 - 125	10	35	
Di-n-octyl phthalate	98.0	103		ug/L	105	42 - 125	7	35	
Fluoranthene	98.0	101		ug/L	103	44 - 119	8	35	
Fluorene	98.0	98.4		ug/L	100	39 - 116	7	35	
Hexachlorobenzene	98.0	99.4		ug/L	101	43 - 112	7	35	
Hexachlorobutadiene	98.0	52.4		ug/L	53	14 - 77	21	35	
Hexachlorocyclopentadiene	98.0	66.8		ug/L	68	10 - 77	16	35	
Hexachloroethane	98.0	49.7		ug/L	51	13 - 75	20	35	
Indeno[1,2,3-cd]pyrene	98.0	98.2		ug/L	100	35 - 116	10	35	
Isophorone	98.0	89.3		ug/L	91	48 - 107	1	35	
Naphthalene	98.0	70.4		ug/L	72	33 - 95	8	35	
Nitrobenzene	98.0	79.4		ug/L	81	42 - 99	5	35	
N-Nitrosodimethylamine	98.0	79.2		ug/L	81	35 - 96	8	35	
N-Nitrosodi-n-propylamine	98.0	84.4		ug/L	86	44 - 111	3	35	
N-Nitrosodiphenylamine	98.0	95.2		ug/L	97	46 - 116	9	35	
Pentachlorophenol	196	176		ug/L	90	26 - 136	11	35	
Phenanthrene	98.0	99.2		ug/L	101	43 - 120	9	35	
Phenol	98.0	72.2		ug/L	74	25 - 99	8	35	
Pyrene	98.0	116		ug/L	119	43 - 119	10	35	

**LCSD LCSD**

Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)	98		40 - 120
2-Fluorobiphenyl	78		50 - 120
2-Fluorophenol (Surr)	66		30 - 120
Nitrobenzene-d5 (Surr)	77		45 - 120
Phenol-d6 (Surr)	70		35 - 120
Terphenyl-d14 (Surr)	101		10 - 150

## Method: 8270C SIM - 1,4 Dioxane by SIM

**Lab Sample ID: MB 440-477875/1-A**

**Matrix: Water**

**Analysis Batch: 478024**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 477875**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	ug/L	05/22/18 12:28	05/23/18 13:32		1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	66		36 - 90			05/22/18 12:28	05/23/18 13:32	1

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1  
 SDG: Whittier, CA

## Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)

**Lab Sample ID: LCS 440-477875/3-A**

**Matrix: Water**

**Analysis Batch: 478024**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 477875**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
1,4-Dioxane	1.98	1.28		ug/L	65		36 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				Limits
1,4-Dioxane-d8 (Surr)	60		36 - 90				

**Lab Sample ID: LCSD 440-477875/4-A**

**Matrix: Water**

**Analysis Batch: 478024**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 477875**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.	RPD
1,4-Dioxane	2.00	1.20		ug/L	60		36 - 120	7
Surrogate	%Recovery	LCSD Qualifier	Limits				Limits	RPD
1,4-Dioxane-d8 (Surr)	56		36 - 90					35

## Method: SM 2540D - Solids, Total Suspended (TSS)

**Lab Sample ID: MB 440-478185/1**

**Matrix: Water**

**Analysis Batch: 478185**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	mg/L			05/23/18 15:33	1

**Lab Sample ID: LCS 440-478185/2**

**Matrix: Water**

**Analysis Batch: 478185**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec
Total Suspended Solids	1000	1090		mg/L	109	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits			Limits
1,4-Dioxane-d8 (Surr)	56		36 - 90			

**Lab Sample ID: MRL 440-478185/7**

**Matrix: Water**

**Analysis Batch: 478185**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec
Total Suspended Solids	1.00	1.30		mg/L	130	50 - 150
Surrogate	%Recovery	MRL Qualifier	Limits			Limits
1,4-Dioxane-d8 (Surr)	56		36 - 90			

**Lab Sample ID: 440-211846-B-5 DU**

**Matrix: Water**

**Analysis Batch: 478185**

**Client Sample ID: Duplicate**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD
Total Suspended Solids	12000		12100		mg/L		2

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1  
 SDG: Whittier, CA

## Method: SM 4500 H+ B - pH

**Lab Sample ID:** 440-211591-2 DU

**Matrix:** Water

**Analysis Batch:** 477429

**Client Sample ID:** Grab  
**Prep Type:** Total/NA

Analyte	Sample	Sample	DU		DU	Unit	D	RPD	RPD Limit
	Result	Qualifier	Result	Qualifier					
pH	8.7	HF	8.7		SU			0.2	2

## Method: SM 4500 S2 D - Sulfide, Total

**Lab Sample ID:** MB 440-477882/1-A

**Matrix:** Water

**Analysis Batch:** 477923

**Client Sample ID:** Method Blank  
**Prep Type:** Dissolved  
**Prep Batch:** 477882

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Sulfide, Dissolved	ND		0.050	mg/L		05/22/18 12:55	05/22/18 15:48	1

**Lab Sample ID:** LCS 440-477882/2-A

**Matrix:** Water

**Analysis Batch:** 477923

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Dissolved  
**Prep Batch:** 477882

Analyte	Spike	LCS	LCS	Unit	D	%Rec.	Limits	RPD
	Added	Result	Qualifier					
Sulfide, Dissolved	0.500	0.514		mg/L		103	80 - 120	

**Lab Sample ID:** LCSD 440-477882/3-A

**Matrix:** Water

**Analysis Batch:** 477923

**Client Sample ID:** Lab Control Sample Dup  
**Prep Type:** Dissolved  
**Prep Batch:** 477882

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec.	Limits	RPD
	Added	Result	Qualifier					
Sulfide, Dissolved	0.500	0.496		mg/L		99	80 - 120	4

**Lab Sample ID:** 440-211607-E-1-B MS

**Matrix:** Water

**Analysis Batch:** 477923

**Client Sample ID:** Matrix Spike  
**Prep Type:** Dissolved  
**Prep Batch:** 477882

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier				
Sulfide, Dissolved	ND	HF	0.500	0.463	HF	mg/L		93	70 - 130

**Lab Sample ID:** 440-211607-E-1-C MSD

**Matrix:** Water

**Analysis Batch:** 477923

**Client Sample ID:** Matrix Spike Duplicate  
**Prep Type:** Dissolved  
**Prep Batch:** 477882

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier				
Sulfide, Dissolved	ND	HF	0.500	0.490	HF	mg/L		98	70 - 130

## Method: SM 5220D - COD

**Lab Sample ID:** MB 440-478438/3

**Matrix:** Water

**Analysis Batch:** 478438

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Chemical Oxygen Demand	ND		20	mg/L		05/24/18 15:36		1

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# QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Method: SM 5220D - COD (Continued)

**Lab Sample ID: LCS 440-478438/4**

**Matrix: Water**

**Analysis Batch: 478438**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	213		mg/L		107	90 - 110

**Lab Sample ID: 440-211913-A-1 MS**

**Matrix: Water**

**Analysis Batch: 478438**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	72		200	251		mg/L		89	70 - 120

**Lab Sample ID: 440-211913-A-1 MSD**

**Matrix: Water**

**Analysis Batch: 478438**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	72		200	258		mg/L		93	70 - 120	3	15

**Lab Sample ID: 440-211913-A-1 DU**

**Matrix: Water**

**Analysis Batch: 478438**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chemical Oxygen Demand	72		78.0		mg/L		8	15

# QC Association Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## GC/MS VOA

### Analysis Batch: 477486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	8260B	
MB 440-477486/4	Method Blank	Total/NA	Water	8260B	
LCS 440-477486/5	Lab Control Sample	Total/NA	Water	8260B	
440-211591-2 MS	Grab	Total/NA	Water	8260B	
440-211591-2 MSD	Grab	Total/NA	Water	8260B	

### Analysis Batch: 478012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	8260B	
MB 440-478012/5	Method Blank	Total/NA	Water	8260B	
LCS 440-478012/6	Lab Control Sample	Total/NA	Water	8260B	
440-211454-A-6 MS	Matrix Spike	Total/NA	Water	8260B	
440-211454-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

### Analysis Batch: 478275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2 - RA	Grab	Total/NA	Water	8260B	
MB 440-478275/6	Method Blank	Total/NA	Water	8260B	
LCS 440-478275/10	Lab Control Sample	Total/NA	Water	8260B	
440-211786-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-211786-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

## GC/MS Semi VOA

### Prep Batch: 477875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	3520C	
MB 440-477875/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-477875/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-477875/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	

### Prep Batch: 477895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	3520C	
MB 440-477895/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-477895/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-477895/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

### Analysis Batch: 478024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	8270C SIM	
MB 440-477875/1-A	Method Blank	Total/NA	Water	8270C SIM	
LCS 440-477875/3-A	Lab Control Sample	Total/NA	Water	8270C SIM	
LCSD 440-477875/4-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	

### Analysis Batch: 478357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	8270C	
MB 440-477895/1-A	Method Blank	Total/NA	Water	8270C	
LCS 440-477895/2-A	Lab Control Sample	Total/NA	Water	8270C	

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# QC Association Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## GC/MS Semi VOA (Continued)

### Analysis Batch: 478357 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 440-477895/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	477895

## General Chemistry

### Analysis Batch: 477429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	SM 4500 H+ B	
440-211591-2 DU	Grab	Total/NA	Water	SM 4500 H+ B	

### Prep Batch: 477882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Dissolved	Water	SM 4500 S2 B	
MB 440-477882/1-A	Method Blank	Dissolved	Water	SM 4500 S2 B	
LCS 440-477882/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 B	
LCSD 440-477882/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 B	
440-211607-E-1-B MS	Matrix Spike	Dissolved	Water	SM 4500 S2 B	
440-211607-E-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	SM 4500 S2 B	

### Analysis Batch: 477923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Dissolved	Water	SM 4500 S2 D	477882
MB 440-477882/1-A	Method Blank	Dissolved	Water	SM 4500 S2 D	477882
LCS 440-477882/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 D	477882
LCSD 440-477882/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 D	477882
440-211607-E-1-B MS	Matrix Spike	Dissolved	Water	SM 4500 S2 D	477882
440-211607-E-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	SM 4500 S2 D	477882

### Analysis Batch: 478185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-1	Composite	Total/NA	Water	SM 2540D	
MB 440-478185/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-478185/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MRL 440-478185/7	Lab Control Sample	Total/NA	Water	SM 2540D	
440-211846-B-5 DU	Duplicate	Total/NA	Water	SM 2540D	

### Analysis Batch: 478438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-1	Composite	Total/NA	Water	SM 5220D	
MB 440-478438/3	Method Blank	Total/NA	Water	SM 5220D	
LCS 440-478438/4	Lab Control Sample	Total/NA	Water	SM 5220D	
440-211913-A-1 MS	Matrix Spike	Total/NA	Water	SM 5220D	
440-211913-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5220D	
440-211913-A-1 DU	Duplicate	Total/NA	Water	SM 5220D	

## Field Service / Mobile Lab

### Analysis Batch: 477468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-211591-2	Grab	Total/NA	Water	Field Sampling	

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# Definitions/Glossary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

### GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

### General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical WW 24 Hour Composite

TestAmerica Job ID: 440-211591-1

SDG: Whittier, CA

## Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8260B		Water	Total Volatile Organic Compounds
8270C	3520C	Water	2-Methylphenol
8270C	3520C	Water	3-Methylphenol + 4-Methylphenol
8270C	3520C	Water	4-Chloroaniline
8270C	3520C	Water	Benzidine
8270C SIM	3520C	Water	1,4-Dioxane
Field Sampling		Water	Field pH
Field Sampling		Water	Field Temperature

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## Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-211591-1  
SDG Number: Whittier, CA

**Login Number:** 211591

**List Source:** TestAmerica Irvine

**List Number:** 1

**Creator:** Soderblom, Tim

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		6
The cooler's custody seal, if present, is intact.	N/A	Not present	7
Sample custody seals, if present, are intact.	N/A	Not Present	8
The cooler or samples do not appear to have been compromised or tampered with.	True		9
Samples were received on ice.	True		10
Cooler Temperature is acceptable.	True		11
Cooler Temperature is recorded.	True		12
COC is present.	True		13
COC is filled out in ink and legible.	True		14
COC is filled out with all pertinent information.	True		15
Is the Field Sampler's name present on COC?	True		
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		

## **ATTACHMENT G**

**Other Data Collected this Quarter**



□ OU-1 On-Site Soil Remedy  
Dual Phase Extraction Well  
● Observation Well/Piezometer

■ Former Omega Chemical  
Property Boundary  
■ OU-1 Boundary



Reviewed By: LEM  
Drawn By: CAT  
Date: 7/30/2018

**Attachment G, Figure G-1  
Other Groundwater Data Locations  
Omega Chemical Superfund Site**

**Attachment G, Table G-1**  
**Other Groundwater Elevation Data Collected This Quarter**  
**Omega Chemical Superfund Site**  
**Second Quarter 2018**

Well No.	Top of Casing Elevation (feet MSL)	Screen Interval (feet MSL)	Date	Depth To Water (feet btoc)	Groundwater Elevation (feet MSL)
PZ-9	197.97	108.49 - 128.49	6/6/2018	84.75	113.22
OW11	200.06	100.52 - 120.52	6/6/2018	87.25	112.81
OW13B	210.89	71.37 - 81.37	6/6/2018	96.71	114.18
DPE-3	206.76	109.32 - 169.32	6/6/2018	92.08	114.68
DPE-4	202.97	105.50 - 165.50	6/6/2018	92.21	110.76
DPE-5	201.77	104.36 - 164.36	6/6/2018	92.02	109.75
DPE-8	204.87	107.46 - 167.46	6/6/2018	90.54	114.33
DPE-9	199.06	101.59 - 161.59	6/6/2018	88.81	110.25
VE-7D	200.11	102.03 - 162.03	6/6/2018	90.81	109.30
VE-10D	198.80	100.66 - 160.66	6/6/2018	92.32	106.48

Notes:

Elevation data per California Coordinate System NADV88

btoc = below top of casing

Dry = No water detected, water detected below the screen interval, or water detected at or near total depth of well

MSL = mean sea level

**Attachment G, Table G-2**  
**Other Groundwater Pumping Data Collected This Quarter**  
**Omega Chemical Superfund Site**  
**Second Quarter 2018**

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate <sup>1</sup> (gpm)	Average Flow Rate <sup>2</sup> (gpm)
DPE-3	April 2018	108	17,605	2.73	0.41
	May 2018	118	19,962	2.82	0.45
	June 2018	101	16,314	2.69	0.38
	2nd Quarter 2018	327	53,881	2.75	0.41
DPE-4	April 2018	142	20,276	2.37	0.47
	May 2018	165	24,682	2.50	0.55
	June 2018	138	20,342	2.46	0.47
	2nd Quarter 2018	445	65,300	2.44	0.50
DPE-5	April 2018	177	23,719	2.23	0.55
	May 2018	200	27,187	2.27	0.61
	June 2018	164	21,978	2.23	0.51
	2nd Quarter 2018	541	72,884	2.24	0.56
DPE-8	April 2018	126	13,907	1.84	0.32
	May 2018	125	14,416	1.92	0.32
	June 2018	100	11,305	1.88	0.26
	2nd Quarter 2018	351	39,628	1.88	0.30
DPE-9	April 2018	697	63,300	1.51	1.47
	May 2018	742	54,324	1.22	1.22
	June 2018	719	49,874	1.16	1.15
	2nd Quarter 2018	2,157	167,498	1.30	1.28

**Attachment G, Table G-2**  
**Other Groundwater Pumping Data Collected This Quarter**  
**Omega Chemical Superfund Site**  
**Second Quarter 2018**

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate <sup>1</sup> (gpm)	Average Flow Rate <sup>2</sup> (gpm)
VE-7D	April 2018	692	43,028	1.04	1.00
	May 2018	742	26,929	0.60	0.60
	June 2018	719	34,709	0.80	0.80
	2nd Quarter 2018	2,152	104,666	0.82	0.80
VE-10D	April 2018	697	80,670	1.93	1.87
	May 2018	742	93,256	2.09	2.09
	June 2018	647	90,405	2.33	2.09
	2nd Quarter 2018	2,085	264,331	2.12	2.02

Notes:

1. Operational flow rate calculated from total gallons processed in the month and hours the pump actually operated in the month.

2. Average flow rate is calculated from total gallons processed in the month and total hours in the month, regardless of pump uptime.

All extraction wells operate on/off based on water levels measured by pressure transducers installed in each well.

hrs = hours

gal = gallons

gpm = gallons per minute